CHEMICAL AND BIOLOGICAL DATA SUMMARY FOR PLASTIC LAKE OUTFLOW ACIDIFICATION EXPERIMENTS (SPRING AND AUTUMN, 1982)

J. G. FINDEIS and M. COLEMAN TAYLOR

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CHEMICAL AND BIOLOGICAL DATA SUMMARY FOR PLASTIC LAKE OUTFLOW ACIDIFICATION EXPERIMENTS (SPRING AND FALL 1982)

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PREFACE

The unpublished Data Report Series is intended as a readily available source of basic data collected for lakes and watersheds in the Muskoka-Haliburton area of Ontario. These data were collected as part of the Acid Precipitation in Ontario Study.

The Acid Precipitation in Ontario Study (1979 - present) was initiated, in part, to investigate the effects of the deposition of strong acids on aquatic and terrestrial ecosystems in Ontario. The primary findings of these studies have been and will continue to be published as reviewed papers and technical reports.

ABSTRACT

The effects of short-term pH depressions on aquatic biota is poorly documented. This data report presents the physical, chemical, and biological data from an acidification experiment that was conducted on the outflow of Plastic Lake during the spring and autumn of 1981. A detailed description of the methods for the collection of the biotic data is also included.

SOMMAIRE

On connaît encore mal les effets d'une baisse temporaire du pH sur la faune et la flore aquatiques. Le présent rapport reproduit les données physiques, chimiques et biologiques recueillies lors d'une expérience d'acidification qui a été effectuée dans le lac Plastic au printemps et à l'automne de 1982. Il décrit également en détail les méthodes qui ont servi à la collecte des données.

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INTRODUCTION

Spring snowmelt and acidic rainstorms cause short-term pH depressions as low as 4.0 in poorly buffered Canadian Shield Streams (Jeffries et al., 1979; Scheider et al., 1979). Most aquatic organisms will not tolerate prolonged exposure to such low pH, but very little has been documented about the effects of short-term pH depressions on aquatic biota. Because invertebrates, in particular insects, are the most abundant and diverse group of stream biota, a study was conducted to determine the effects of short-term pH depressions on stream invertebrate communities. Drift and benthic density, and life stage alteration of invertebrates was monitored, as well as various pH dependent chemical parameters. This report will detail methods and include all of the chemical and biological data collected for this study.

STUDY SITE

Plastic Lake (45° 11′ lat., 78° 50′ long.), a small 32 hectare lake is located on the Precambrian shield in Haliburton County, south central Ontario. The watershed is partly covered by a layer of thin basal till with much exposed bedrock of igneous origin. White pine and hemlock are the most common trees, but black spruce is dominant in bog areas. Hardwoods (maple and birch) are dominant on slopes with deeper till deposits (see Girard et al., 1985). The outflow of Plastic Lake flows southward for a distance of 1.5 km. into Lake St. Nora. It continues through a series of lakes and rivers into Georgian Bay.

The experiments were conducted on a section of Plastic Lake outflow, 1.1 km. downstream from the stream gauging station. The study area was divided into a 100 metre reference area and a 100 metre treatment area. In the fall the experiment was moved upstream to avoid any 'memory' effect from the spring experiment (Fig. 1).

METHODS

Reagent grade sulphuric and nitric acid were mixed and added to the stream to achieve pH levels of 4.8 and 4.2 for 4 day periods. pH levels were monitored regularly, at a location 12 metres downstream of acid addition. Water samples for chemical analyses were taken at 6-12 hour intervals. Samples came from locations 2 metres above acid addition (site A), and at 15 (site B), 30 (site C), and 100 metres (site D) downstream of the acid drip point. The number of chemical samples at each station varied with experimental design. Samples were taken for 2 days before the experiment and for 8 days during the experiment. In spring, additional water samples were taken from fish holding tanks located downstream of the study site. These tanks were continually replenished with stream water by gravity fed pipes originating at sites A through D. The effects of short-term pH depressions on three fish species held within the tanks were monitored by other Ministry of the Environment personnel (Munro, et al. in prep). Stream discharge was determined using a Teledyne Gurley water current meter every 12 hours above site A and below site C for the duration of the experiments (Fig. 3).

Water Chemistry

The addition of H_2SO_4 and HCL cause quantitative spatial changes in chemical weathering of the stream bottom through cation exchange and mineral dissolution. Samples were taken to evaluate these changes, as well as nutrient release and retention. HCL was added to evaluate the relative importance of cation exchange, Al dissolution and groundwater dilution. Speciation of Al was done to determine dominant fractions above and below acid addition. Inorganic, monomeric fractions of Al are thought to be the toxic species to aquatic biota (Driscoll et al., 1980). Methods used for the analysis of water samples can be found in Locke and Scott (1986), and the Ontario Ministry of the Environment Handbook of Analytical Methods for Environmental Samples (1983).

Benthic Samples

Fifteen benthic samples from 2 different habitats (fast and slow water) in the reference and treatment areas were collected prior to, and immediately after 8 days of acid addition (total 60), following a stratified, random design. The same number of samples were collected in spring and autumn. The autumn samples were not separated into fast and slow water habitats. A cylindrical core sample ($0.0314 m^2$) was placed into the stream bed to a depth of 0-15 cm depending on bottom type (see Hall et al., 1980). Sediments were repeatedly hand agitated, and suspended organisms collected with a hand net until no more organisms were observed. Samples were preserved in 10% formalin. Numbers of insects were multiplied by 31.8 to give a number of insects per one square metre. The collected data and summaries of numbers can be found in Tables 11 through 26.

Drift Studies

Drift nets, consisting of a 3/4" ABS plastic frame and 273 um mesh Nitex screen (Waters 1962) were placed from bank to bank at sites A, B and C. A rectangular woocen block covered with the same mesh size used for the drift nets was placed upstream of site A to prevent invertebrates from drifting into the study area. A similar block was placed 2 metres below the acid drip point to prevent the organisms exposed to pH levels below 4.8 or 4.2 from being collected in the drift nets at site B.

The nets were emptied at 12 hour intervals 2 days prior to, and 8 days during the experiments. Two - 12 hour samples were combined at each site to give 24 hour estimates. Invertebrate drift at each station was converted to numbers/100^3/day. (Numbers/100 m^3/day = n/Q (x/y), where n = number of organisms collected, Q = discharge in litres/second, x = number of seconds in one day and y = number of litres in 100 cubic metres). Collected data and summary numbers are located in Tables 27 through 38.

Invertebrate Subsampling Procedure

In the laboratory, bottom and drift samples were washed through a Stewart elutriator (1975). Cased caddisflies and molluscs were picked from the residual gravel. Elutriated samples from each station were thoroughly mixed and washed through a series of graduated sieves (0.6 - 0.1 mm aperture size) to remove the larger pieces of organic debris. Organisms retained by the 0.6 mm mesh were counted individually.

The remaining fine materials were mixed well in 1 L of water and allowed to settle in a circular sieve with a mesh size of 0.01 mm. When the material had drained well it was divided into quarters with a cross-shaped partition made to fit snugly into the sieve. If necessary, a further 1/4 subsample was taken by the same method. Both the larger specimens and those in the subsamples were examined microscopically, identified, (Merritt and Cummins, 1984) and counted.

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FIGURE 1. LOCATION OF STUDY SITE AND SAMPLING SITES.

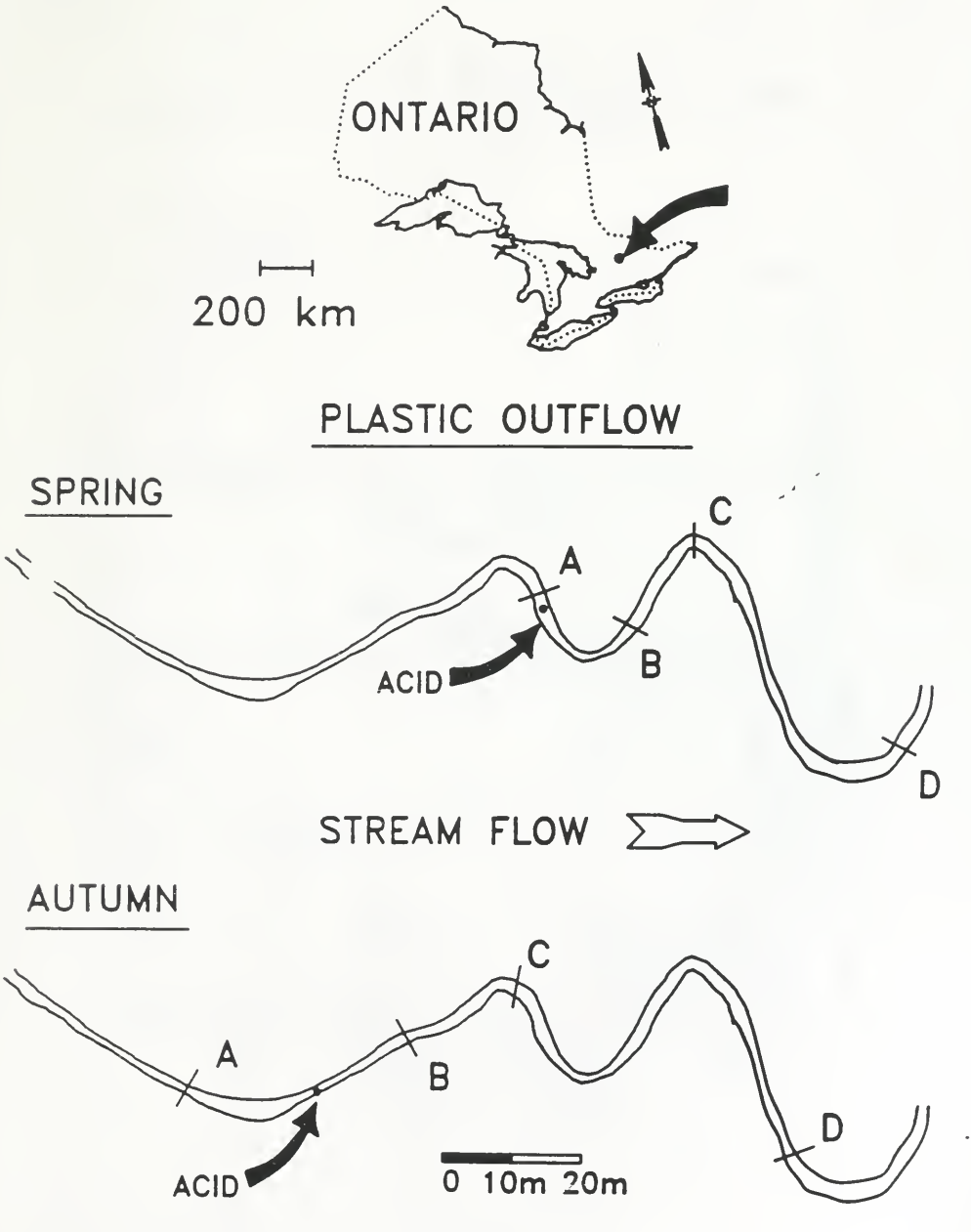

Figure 2. Daily mean water temperatures.

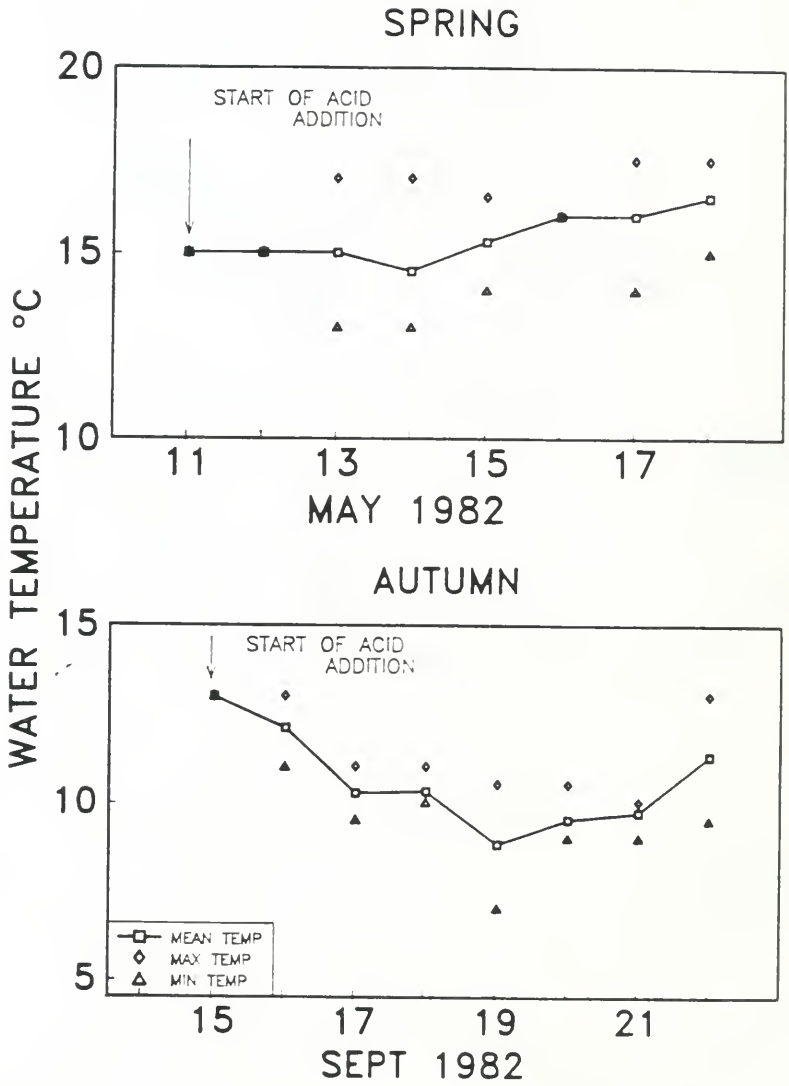

Figure 3. Mean of upstream and downstream discharges.

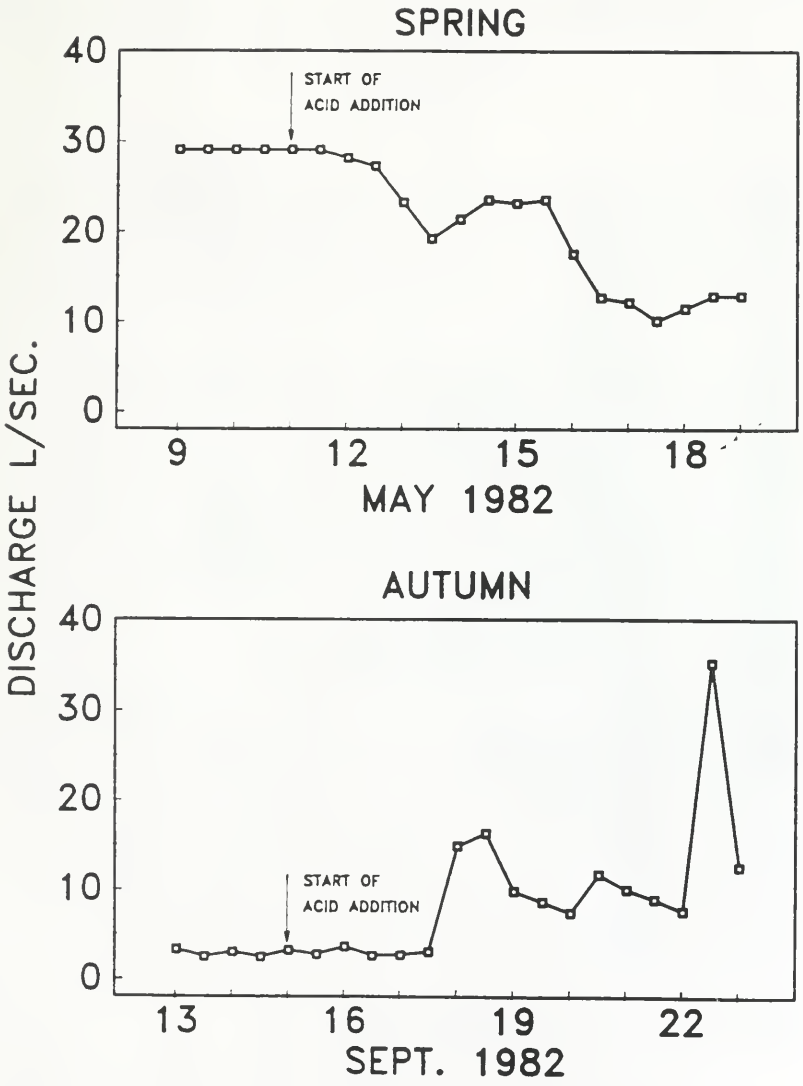

Table 1. Abbreviations, descriptions and units of water chemistry parameters

Abbreviation	Description	Reported units
pH	pH	dimensionless
Alk	Total inflection point alkalinity	mg/L as CaCO3
Ca	Calcium	mg/L
Mg	Magnesium	"
Na	Sodium	"
K	Potassium	"
H4SiO3	Silicates as Si	"
Cl	Chloride	"
SO4	Sulphate	mg/L as so4
DOC	Dissolved organic carbon	"
DIC	Dissolved inorganic carbon	"
NH4-N	Ammonium	ug/L
NO3-N	Nitrate and nitrite	"
Colour	True colour	hazen units
F	Fluoride	ug/L
pF	pF	dimensionless
Al	Total aluminum	ug/L
Al 1	Inorganic monomeric aluminum	"
Al 2	Total monomeric aluminum	"
Al 3	Total monomeric & polymeric aluminum	"
Fe	Iron	mg/L
Mn	Manganese	"
Zn	Zinc	"
Cond25	Conductivity (at 25 C)	um hos/cm
NNTK-N	Total Kjeldahl nitrogen	ug/L
P	Total phosphorus	"
As	Arsenic	mg/L
Cd	Cadmium	"
Co	Cobalt	"
Ni	Nickel	"
Pb	Lead	"
Cu	Copper	"
Cr	Chromium	"

Symbols used to indicate values below detection limits

* <.001 mg/L
** <.0002 mg/L
*** <.003 mg/L

Table 2. Chemistry results from site A of the spring experiment.

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE A
(reference)

	DATE	TIME	LOCATION	pH	Alk mg/L	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	SIO3 mg/L	Cl mg/L	SO4 mg/L	DOC mg/L	DIC mg/L
Pretreatment	May 11/88	1430	stream	5.78	0.35	1.8	0.48	0.75	0.24	0.38	0.40	6.7	3.0	0.37
Reference pH 5.6	May 11	2000	stream	5.65	0.33	1.8	0.48	0.55	0.24	0.34	0.40	6.8	2.3	0.45
	12	800	stream	5.77	0.40	1.7	0.44	0.65	0.24	0.36	0.50	6.7	2.5	0.53
	12	2000	stream	5.76	0.46	1.8	0.50	0.60	0.22	0.34	0.40	6.7	2.5	0.49
	13	800	stream	5.82	0.41	1.9	0.54	0.55	0.24	0.44	0.40	6.8	2.2	0.41
	13	800	tank	-	-	2.3	0.50	0.60	0.20	0.36	0.45	6.7	2.4	-
	13	2000	stream	5.83	0.45	1.9	0.48	0.55	0.22	0.32	0.40	6.8	2.4	0.47
	14	800	stream	5.82	0.38	1.7	0.50	0.55	0.22	0.36	0.40	6.7	2.3	0.43
	14	800	tank	5.84	0.44	1.9	0.48	0.55	0.22	0.36	0.40	6.7	2.4	0.38
	14	2000	stream	5.80	0.49	1.9	0.50	0.50	0.22	0.30	0.40	6.7	2.3	0.46
	15	800	stream	5.84	0.42	1.9	0.50	0.50	0.22	0.34	0.40	6.7	2.3	0.48
	15	800	tank	5.86	0.59	1.9	0.50	0.65	0.36	0.36	0.65	6.6	2.4	0.46
MEAN				5.80	0.44	1.9	0.49	0.57	0.24	0.35	0.44	6.7	2.4	0.46
S.E.				1.09	0.11	0.2	0.02	0.05	0.04	0.03	0.07	0.1	0.1	0.09
Reference pH 5.6	May 15	2000	stream	5.82	0.51	1.9	0.50	0.50	0.22	0.30	0.40	6.6	2.2	0.52
	16	800	tank	5.82	0.44	1.9	0.48	0.50	0.22	0.32	0.45	6.6	2.4	0.46
	16	800	stream	5.84	0.51	1.9	0.48	0.50	0.22	0.32	0.40	6.6	2.3	0.50
	16	2000	stream	5.81	0.54	1.9	0.48	0.45	0.22	0.30	0.40	6.7	2.5	0.52
	17	800	stream	5.90	0.58	1.9	0.48	0.55	0.22	0.36	0.40	6.5	2.3	0.48
	17	800	tank	5.86	0.51	1.9	0.46	0.60	0.28	0.36	0.45	6.4	2.3	0.41
	17	2000	stream	5.82	0.49	1.9	0.46	0.50	0.24	0.32	0.45	6.6	2.1	0.47
	18	1100	tank	5.88	0.53	1.8	0.44	0.55	0.24	0.36	0.40	6.6	2.0	0.39
	18	1100	stream	5.84	0.52	1.8	0.46	0.50	0.22	0.36	0.40	6.5	2.0	0.44
	18	2000	stream	5.85	0.49	2.2	0.48	0.45	0.18	0.30	0.40	6.6	2.2	0.50
	19	800	tank	5.88	0.61	1.9	0.46	0.55	0.30	0.40	0.55	6.6	2.4	0.47
	19	800	stream	5.88	0.62	2.1	0.46	0.50	0.16	0.36	0.35	6.6	2.3	0.47
MEAN				5.85	0.53	1.9	0.47	0.51	0.23	0.34	0.42	6.6	2.3	0.47
S.E.				0.03	0.05	0.1	0.02	0.04	0.04	0.03	0.05	0.1	0.2	0.04
Post-treatment	May 20	1600	stream	5.65	0.52	1.9	0.46	0.50	0.22	0.30	0.40	6.5	2.3	0.50

Table 2 cont d

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE A
(reference)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOUR	F ug/L	PF	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	May 11/82	1430	stream	2	80	18	47.3	5.654	0.068	13	32.1	46.1	0.120	0.02	-
Reference	May 11	2000	stream	2	85	16	46.7	-	0.047	-	-	-	0.073	0.01	-
pH 5.8	12	800	stream	4	90	13	46.5	5.654	0.053	7	36.8	39.0	0.110	0.02	0.01
	12	2000	stream	2	90	15	49.3	-	0.047	-	42.7	-	0.089	0.01	-
	13	800	stream	2	95	15	-	-	0.048	-	42.7	-	0.081	0.01	-
	13	800	tank	2	95	13	50.3	-	0.039	-	42.7	-	0.092	0.01	-
	13	2000	stream	3	85	10	51.2	-	0.067	-	-	-	0.300	0.03	-
	14	800	stream	3	95	13	53.6	5.656	0.046	13	41.5	48.2	0.100	0.01	0.01
	14	800	tank	5	90	14	52.1	5.638	0.052	9	39.2	43.8	0.100	0.01	0.01
	14	2000	stream	1	85	14	52.6	-	0.070	-	-	-	0.160	0.02	-
	15	800	stream	1	95	14	54.1	-	0.062	-	-	-	0.190	0.02	-
	15	800	tank	12	100	16	52.8	-	0.062	-	41.5	-	0.130	0.02	-
MEAN				3	91	14	50.9	5.649	0.054	10	41.0	42.7	0.129	0.01	0.01
S.D				3	5	2	2.6	0.008	0.009	2	2.1	3.5	0.064	0.01	0.00
Reference	May 15	2000	stream	2	90	11	51.6	-	0.061	-	-	-	0.130	0.02	-
pH 5.8	16	800	tank	9	100	17	52.7	5.582	0.110	4	-	-	0.360	0.07	0.01
	16	800	stream	2	100	16	53.5	5.636	0.066	11	-	-	0.160	0.02	0.01
	16	2000	stream	1	100	16	53.6	-	0.060	-	36.8	-	0.140	0.02	-
	17	800	stream	2	100	13	53.2	-	0.056	-	35.6	-	0.120	0.01	-
	17	800	tank	18	105	13	52.8	-	0.063	-	42.7	-	0.160	0.02	-
	17	2000	stream	1	90	16	47.6	-	0.057	-	-	-	0.140	0.02	-
	18	1100	tank	5	120	17	53.3	5.600	0.099	7	27.4	34.5	0.290	0.05	0.01
	18	1100	stream	1	120	13	53.2	5.637	0.057	9	28.6	35.6	0.140	0.02	0.01
	18	2000	stream	1	110	18	54.2	-	0.043	-	27.4	-	0.120	0.02	-
	19	800	tank	17	130	20	51.5	-	0.076	-	29.8	-	0.230	0.04	-
	19	800	stream	3	130	12	52.4	-	0.047	-	29.8	-	0.120	0.02	-
MEAN				5	108	15	52.5	5.623	0.066	8	32.3	35.0	0.176	0.03	0.01
S.D				4	5	3	0.5	0.024	0.024	3	5.2	0.6	0.115	0.02	0.00
Post-treatment	May 20	1000	stream	4	110	10	54.1	0.036	0.036	-	-	-	0.094	0.01	-

Table 3. Chemistry results from site B of the spring experiment.

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE B
(treatment)

	DATE	TIME	LOCTN	pH	Alk mg/L	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	SIO3 mg/L	Cl mg/L	SO4 mg/L	DOC mg/L	DIC mg/L
Pretreatment	May 11/82	1430	stream	5.76	0.4	1.80	0.48	0.55	0.24	0.38	0.4	6.7	2.30	0
Treatment	May 11	2000	stream	4.80	-0.8	2.10	0.54	0.55	0.22	0.36	0.7	7.8	2.50	0
pH 4.8	12	800	stream	4.80	-0.8	2.00	0.54	0.65	0.22	0.38	0.7	7.8	2.40	0
	12	2000	stream	4.90	-0.6	1.90	0.52	0.60	0.22	0.34	0.6	7.5	2.50	0
	13	800	stream	-	-	1.90	0.52	0.55	0.22	0.36	0.7	7.8	2.30	-
	13	800	tank	4.75	-0.9	1.90	0.54	0.60	0.22	0.36	0.7	7.9	2.30	0
	13	2000	stream	4.82	-0.8	2.00	0.52	0.60	0.22	0.32	0.7	7.9	2.00	0
	14	800	stream	4.67	-1.2	1.90	0.52	0.55	0.22	0.36	0.8	8.1	2.40	0
	14	800	tank	4.68	-1.1	1.90	0.54	0.55	0.20	0.36	0.7	8.0	2.30	0
	14	2000	stream	4.73	-1.0	2.00	0.52	0.50	0.24	0.32	0.8	8.0	2.40	0
	15	800	stream	4.80	-0.9	1.90	0.50	0.45	0.20	0.36	0.8	7.8	2.20	0
	15	800	tank	4.85	-0.8	2.00	0.52	0.55	0.24	0.34	0.8	7.8	2.40	0
MEAN				4.78	-0.89	1.95	0.53	0.56	0.22	0.35	0.70	7.85	2.34	0.43
S.D				0.07	0.16	0.07	0.01	0.05	0.01	0.02	0.04	0.15	0.14	0.05
Treatment	May 15	2000	stream	4.34	-2.6	2.10	0.56	0.50	0.24	0.30	1.2	9.1	2.30	0
pH 4.2	16	800	tank	4.15	-4.1	2.10	0.56	0.50	0.24	0.32	1.1	10.7	2.40	0
	16	800	stream	4.17	-4.0	2.00	0.56	0.45	0.24	0.34	1.1	10.6	2.40	0
	16	2000	stream	4.37	-2.5	2.00	0.50	0.45	0.24	0.30	0.8	9.4	2.50	0
	17	800	stream	4.23	-3.4	2.10	0.56	0.55	0.22	0.34	1.0	9.0	2.40	0
	17	800	tank	4.23	-3.7	2.20	0.56	0.55	0.28	0.36	1.1	10.1	2.40	1
	17	2000	stream	4.27	-3.1	2.20	0.52	0.45	0.26	0.30	1.0	9.9	2.20	0
	18	1100	tank	4.25	-3.2	2.10	0.54	0.50	0.24	0.36	1.1	9.7	2.10	0
	18	1100	stream	4.17	-3.9	2.20	0.52	0.50	0.24	0.36	1.1	10.3	2.10	0
	18	2000	stream	4.23	-3.2	2.40	0.54	0.45	0.22	0.30	1.0	9.6	2.30	0
	19	800	tank	4.19	-3.6	2.30	0.56	0.45	0.24	0.36	1.2	10.0	2.40	0
	19	800	stream	4.15	-3.9	2.10	0.54	0.45	0.16	0.36	1.2	9.1	2.30	0
MEAN				4.23	-3.43	2.15	0.54	0.48	0.24	0.33	1.06	9.79	2.32	0.44
S.D				0.07	0.51	0.11	0.02	0.04	0.03	0.03	0.10	0.55	0.12	0.04

Table 3 cont'd

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE B
(treatment)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOUR	P ug/L	PP	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/
Pretreatment	May 11/82	1430	stream	1	80	16.0	46.4	5.655	0.056	14	38.6	42.7	0.10	0.02	
Treatment	May 11	2000	stream	3	85	13.0	46.4	-	0.057	-	-	-	0.08	0.01	-
pH 4.8	12	800	stream	5	90	11.0	47.0	5.861	0.065	30	43.8	56.7	0.12	0.02	0.0
	12	2000	stream	3	85	18.0	49.1	-	0.061	-	49.7	-	0.09	0.01	-
	13	800	stream	2	95	15.0	51.8	-	0.047	-	42.7	-	0.09	0.01	-
	13	800	tank	4	95	13.0	50.3	-	0.043	-	47.4	-	0.05	0.01	-
	13	2000	stream	4	85	10.0	53.2	-	0.047	-	-	-	0.08	0.01	-
	14	800	stream	5	90	11.0	54.1	5.896	0.060	34	35.6	48.5	0.09	0.01	0.0
	14	800	tank	3	95	10.0	52.7	5.896	0.052	37	47.4	52.1	0.09	0.01	0.0
	14	2000	stream	2	85	13.0	55.5	-	0.098	-	-	-	0.26	0.05	-
	15	800	stream	2	100	13.0	52.2	-	0.073	-	47.4	-	0.19	0.03	-
	15	800	tank	5	100	16.0	51.6	-	0.061	-	45.0	-	0.13	0.02	-
MEAN				3	91	13	51.3	5.884	0.060	34	44.9	52.4	0.12	0.02	0.0
S.D				1	6	2	2.7	0.016	0.015	3	4.1	3.4	0.06	0.01	0.00
Treatment	May 15	2000	stream	2	90	16.0	52.6	-	0.074	-	-	-	0.15	0.02	-
pH 4.2	16	800	tank	3	95	14.0	53.2	5.966	0.065	31	-	-	0.12	0.02	0.01
	16	800	stream	10	100	18.0	51.7	5.988	0.067	37	-	-	0.16	0.02	0.01
	16	2000	stream	2	95	17.0	52.6	-	0.110	-	-	-	0.32	0.06	-
	17	800	stream	2	100	16.0	52.7	-	0.063	-	46.2	-	0.15	0.02	-
	17	800	tank	8	100	14.0	52.4	-	0.061	-	47.4	-	0.17	0.02	-
	17	2000	stream	1	90	14.0	54.9	-	-	-	-	-	0.12	-	-
	18	1100	tank	1	120	11.0	53.8	5.931	0.060	32	43.8	46.2	0.15	0.02	0.01
	18	1100	stream	5	115	13.0	53.3	5.968	0.100	39	48.5	47.4	0.24	0.03	0.01
	18	2000	stream	2	110	13.0	54.6	-	0.052	-	40.3	-	0.13	0.02	-
	19	800	tank	9	120	13.0	51.7	-	0.053	-	45.0	-	0.15	0.02	-
	19	800	stream	3	130	8.0	-	-	-	-	-	-	-	-	-
MEAN				4	105	14	53.0	5.963	0.071	35	45.2	46.8	0.17	0.03	0.01
S.D.				3	13	3	1.0	0.021	0.018	3	2.7	0.6	0.06	0.01	0.00

Table 4 Chemistry results from site C of the spring experiment.

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE C
(treatment)

	DATE	TIME	LOCATION	pH	Alk	Ca	Mg	Na	K	SIO3	Cl	SO4	DOC	DIC
Pretreatment	May 11/82	1430	stream	5.71	0.33	1.7	0.48	0.60	0.24	0.38	0.40	6.8	2.4	0.39
Treatment	May 11	2000	stream	4.74	-0.96	1.9	0.50	0.65	0.24	0.38	0.70	8.0	2.4	0.47
pH 4.3	12	800	stream	4.77	-0.90	2.0	0.54	0.65	0.22	0.36	0.70	7.9	2.4	0.41
	12	2000	stream	4.74	-0.94	2.0	0.54	0.60	0.22	0.34	0.70	7.9	2.5	0.49
	13	800	stream	4.78	-0.85	1.8	0.48	0.60	0.24	0.38	0.70	7.8	2.4	0.43
	13	800	tank	4.75	-0.98	1.9	0.50	0.60	0.22	0.34	0.70	7.9	2.4	0.42
	13	2000	stream	4.68	-1.12	1.9	0.52	0.55	0.20	0.36	0.75	8.1	2.4	0.41
	14	800	stream	4.69	-1.10	2.0	0.52	0.50	0.24	0.36	0.75	8.0	2.3	0.41
	14	800	tank	4.80	-0.86	2.0	0.52	0.50	0.24	0.32	0.70	8.0	2.3	0.49
	14	2000	stream	4.76	-0.94	1.9	0.50	0.50	0.22	0.36	0.70	7.8	2.3	0.46
	15	800	stream	4.84	-0.77	1.9	0.52	0.50	0.24	0.32	0.80	7.7	2.3	0.47
MEAN				4.76	-0.94	1.9	0.51	0.57	0.23	0.35	0.72	7.91	2.4	0.45
S.D				0.05	0.10	0.1	0.02	0.06	0.01	0.02	0.03	0.11	0.1	0.03
Treatment	May 16	800	tank	4.13	-4.22	2.0	0.54	0.50	0.22	0.32	1.05	10.7	2.4	0.46
pH 4.2	16	800	stream	4.21	-3.44	2.1	0.54	0.50	0.24	0.36	1.00	10.2	2.5	0.50
	16	2000	stream	4.35	-2.54	2.0	0.52	0.50	0.24	0.30	0.80	9.4	2.5	0.48
	17	800	stream	4.21	-3.56	2.1	0.50	0.70	0.50	0.36	1.05	10.0	2.3	0.50
	17	800	tank	4.19	-3.63	2.0	0.50	0.60	0.26	0.36	1.00	10.2	2.4	0.43
	17	2000	stream	4.26	-3.13	2.2	0.50	0.50	0.26	0.32	0.95	9.6	2.1	0.39
	18	1100	tank	4.22	-3.42	2.1	0.50	0.55	0.26	0.38	1.05	10.1	2.0	0.49
	18	1100	stream	4.24	-3.31	2.1	0.50	0.55	0.26	0.36	1.05	9.9	2.0	0.41
	18	2000	stream	4.24	-3.23	2.3	0.52	0.45	0.20	0.32	1.05	9.7	2.3	0.47
	19	800	tank	4.28	-2.94	2.1	0.52	0.65	0.34	0.38	1.25	9.8	2.4	0.53
	19	800	stream	4.16	-3.80	2.2	0.54	0.45	0.16	0.36	1.15	9.2	2.3	0.46
MEAN				4.23	-3.38	2.1	0.52	0.54	0.27	0.35	1.04	9.89	2.3	0.47
S.D				0.06	0.42	0.1	0.02	0.08	0.08	0.03	0.11	0.40	0.2	0.04

Table 4 cont'd

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE C
(treatment)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOR	F ug/L	PF	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	May 11/82	1430	stream	-	80	14	46.5	5.655	0.058	8	38.0	43.8	0.10	-	0.015
Treatment pH 4.8	May 11	2000	stream	3	85	16	46.7	-	0.064	-	-	-	0.09	0.010	-
	12	800	stream	4	90	16	48.5	5.861	0.065	24	49.7	64.8	0.11	0.016	0.005
	12	2000	stream	3	85	15	49.5	-	0.054	-	50.9	-	0.09	0.011	-
	13	800	stream	2	95	13	50.0	-	0.037	-	48.5	-	0.06	0.006	-
	13	800	tank	4	85	13	53.2	-	0.051	-	-	-	0.09	0.003	-
	13	2000	stream	2	90	14	52.1	5.896	0.054	35	49.7	50.9	0.11	0.009	0.011
	14	800	stream	5	90	14	53.6	5.896	0.058	36	50.9	55.6	0.10	0.011	0.005
	14	800	tank	2	85	11	54.2	-	0.093	-	-	-	0.25	0.043	-
	14	2000	stream	2	100	13	51.9	-	0.060	-	45.0	-	0.13	0.015	-
	15	800	stream	6	100	16	52.0	-	0.065	-	48.5	-	0.13	0.017	
MEAN				3	91	14	51.2	5.884	0.060	32	49.0	57.1	0.11	0.015	0.0
S.D.				1	6	2	2.3	0.016	0.014	5	1.9	5.8	0.04	0.011	0.00
Treatment pH 4.2	May 16	800	tank	2	95	10	51.8	5.988	0.063	37	-	-	0.12	0.017	0.008
	16	800	stream	12	100	16	51.9	5.988	0.075	39	-	-	0.17	0.027	0.010
	16	2000	stream	2	90	17	53.3	-	0.080	-	52.1	-	0.17	0.031	-
	17	800	stream	7	95	14	54.7	-	0.056	-	54.4	-	0.12	0.018	-
	17	800	tank	2	95	11	52.0	-	0.065	-	36.8	-	0.14	0.019	-
	17	2000	stream	1	90	14	53.8	-	0.052	-	-	-	0.12	0.013	-
	18	1100	tank	11	120	20	54.5	6.078	0.200	54	60.3	62.6	0.74	0.130	0.010
	18	1100	stream	2	120	15	53.4	5.950	0.064	34	47.4	50.9	0.16	0.023	0.008
	18	2000	stream	1	105	14	53.9	-	0.050	-	43.8	-	0.12	0.019	-
	19	800	tank	17	125	13	52.0	-	0.066	-	48.5	-	0.18	0.025	-
	19	800	stream	3	125	7	52.8	-	0.055	-	45.0	-	0.12	0.016	-
MEAN				5	107	14	53.2	6.005	0.076	42	49.5	58.7	0.20	0.032	0.009
S.D				5	14	3	1.0	0.054	0.042	8	6.7	5.9	0.16	0.033	0.001

Table 5. Chemistry results from site D of the spring experiment.

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE D
(treatment)

	DATE	TIME	LOCT N	pH	Alk mg/L	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	SIO3 mg/L	Cl mg/L	SO4 mg/L	DOC mg/L	DIC mg/L
Pretreatment	May 11/82	1430	stream	5.63	0.3	1.8	0.48	0.65	0.22	0.54	0.40	6.7	2.3	0.55
Treatment	May 11	2000	stream	4.85	-0.7	2.0	0.52	0.60	0.24	0.40	0.65	7.9	2.4	0.60
pH 4.8	12	800	stream	4.86	-0.7	2.0	0.54	0.60	0.22	0.42	0.65	7.9	2.4	0.55
	12	2000	stream	5.04	-0.4	2.0	0.54	0.60	0.22	0.46	0.40	6.7	2.4	0.64
	13	800	stream	4.85	-0.7	2.0	0.52	0.60	0.22	0.42	0.70	7.8	2.3	0.57
	13	2000	stream	4.81	-0.8	2.0	0.52	0.60	0.24	0.40	0.70	7.9	2.4	0.58
	14	800	stream	4.75	-0.9	2.0	0.52	0.60	0.22	0.40	0.75	8.0	2.3	0.55
	14	800	tank	4.79	-0.9	2.0	0.52	0.45	0.22	0.40	0.75	8.0	2.3	0.47
	14	2000	stream	4.82	-0.7	2.0	0.50	0.50	0.24	0.36	0.70	7.9	2.2	0.67
	15	800	stream	4.84	-0.8	2.0	0.52	0.55	0.24	0.40	0.75	7.8	2.5	0.62
	15	800	tank	4.86	-0.7	2.0	0.54	0.50	0.22	0.40	0.75	7.7	2.3	0.47
MEAN				4.85	-0.7	2.0	0.52	0.56	0.23	0.41	0.68	7.8	2.4	0.57
S.D				0.07	0.1	0.0	0.01	0.05	0.01	0.02	0.22	0.4	0.1	0.06
Treatment	May 16	800	tank	4.29	-2.9	2.2	0.54	0.50	0.24	0.38	1.00	10.2	2.4	0.60
pH 4.2	16	800	stream	4.23	-4.4	2.2	0.54	0.50	0.22	0.38	1.05	10.4	2.4	0.60
	16	2000	stream	4.39	-2.3	2.1	0.50	0.50	0.26	0.36	0.85	9.3	2.4	0.67
	17	800	tank	4.26	-3.1	2.2	0.54	0.55	0.26	0.40	1.05	10.3	2.3	0.57
	17	800	stream	4.26	-3.2	2.2	0.54	0.65	0.26	0.40	1.00	10.0	2.3	0.62
	17	2000	stream	4.32	-2.7	2.2	0.50	0.55	0.28	0.38	1.00	9.6	2.1	0.62
	18	1100	stream	4.23	-3.4	2.3	0.52	0.50	0.26	0.40	1.10	10.3	2.0	0.59
	18	1100	tank	4.22	-3.3	2.2	0.52	0.55	0.26	0.40	1.10	10.2	2.0	0.58
	18	2000	stream	4.31	-2.8	2.3	0.50	0.50	0.20	0.36	1.00	9.6	2.1	0.68
	19	800	tank	4.38	-2.3	2.3	0.52	0.55	0.28	0.40	1.05	9.3	2.3	0.61
	19	800	stream	4.25	-3.1	2.8	0.52	0.50	0.24	0.42	1.10	10.0	2.3	0.64
MEAN				4.29	-3.0	2.3	0.52	0.53	0.25	0.39	1.03	9.9	2.2	0.62
S.D				0.06	0.6	0.2	0.02	0.04	0.02	0.02	0.07	0.4	0.1	0.03
Post-treatment	May 20	1000	stream	4.19	-3.8	2.4	0.56	0.70	0.34	0.40	1.40	10.3	2.3	0.59

Table 5 cont d

PLASTIC LAKE OUTFLOW
SPRING WATER CHEMISTRY
SITE D
(treatment)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOUR	F ug/L	PF	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	May 11/82	1430	stream	1	80	11	46.8	5.655	0.062	14	39.2	54.4	0.10	0.022	-
Treatment	May 11	2000	stream	3	85	11	46.5	-	0.057	-	-	-	0.09	0.014	-
pH 4.6	12	800	stream	3	90	14	48.0	5.878	0.064	33	52.1	60.3	0.09	0.015	0.009
	12	2000	stream	3	85	18	50.6	-	0.057	-	56.7	-	0.09	0.015	-
	13	800	stream	3	95	13	49.8	-	0.051	-	53.2	-	0.08	0.015	-
	13	2000	stream	4	85	11	53.8	-	0.061	-	-	-	0.09	0.015	-
	14	800	stream	5	90	14	52.0	5.934	0.070	44	59.1	60.3	0.18	0.016	0.100
	14	800	tank	6	90	13	52.4	5.896	0.060	34	57.9	61.4	0.09	0.017	0.009
	14	2000	stream	2	85	13	53.6	-	0.073	-	-	-	0.14	0.029	-
	15	800	stream	1	95	14	53.9	-	0.072	-	60.3	-	0.14	0.028	-
	15	800	tank	5	100	11	52.0	-	0.064	-	-	-	0.12	0.02	-
MEAN				4	90	13	51.3	5.902	0.063	37	56.6	60.7	0.11	0.0.	0.039
S.D.				1	5	2	2.4	0.023	0.007	5	3.0	0.6	0.03	0.01	0.043
Treatment	May 16	800	tank	10	100	11	52.5	6.061	0.077	45	-	-	0.15	0.030	0.018
pH 4.2	16	800	stream	3	95	8	51.7	6.061	0.071	44	-	-	0.11	0.026	0.009
	16	2000	stream	2	90	11	53.8	-	0.070	-	62.6	-	0.11	0.029	-
	17	800	tank	8	100	14	54.2	-	0.074	-	67.3	-	0.13	0.033	-
	17	800	stream	3	95	14	54.4	-	0.077	-	69.6	-	0.11	0.026	-
	17	2000	stream	4	90	14	55.5	-	0.071	-	-	-	0.15	0.041	-
	18	1100	stream	3	115	10	54.0	6.096	0.110	44	68.5	67.3	0.30	0.064	0.009
	18	1100	tank	3	115	11	54.2	6.060	0.066	49	66.1	65.0	0.12	0.034	0.008
	18	2000	stream	3	105	10	54.0	-	0.073	-	61.4	-	0.17	0.046	-
	19	800	tank	11	120	14	52.6	-	0.087	-	61.4	-	0.25	0.055	-
	19	800	stream	5	125	21	52.0	-	0.044	-	61.4	-	0.09	0.024	-
MEAN				5	105	13	53.5	6.070	0.075	46	64.8	65.0	0.16	0.04	0.011
S.D.				3	12	3	1.1	0.016	0.015	2	3.2		0.06	0.01	0.004
Post-treatment	May 20	1000	stream	7	110	10	54.2		0.060	-	-	-	0.05	0.040	-

Table 6. Chemistry results from site A of the autumn experiment

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE A
(reference)

	DATE	TIME	LOCTN	pH	Alk mg/L	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	SIO3 mg/L	SO4 mg/L	DOC mg/L	DIC mg/L
Pretreatment	Sept 13/82	1300	stream	6.32	2.02	2.2	0.44	0.45	0.18	1.01	7.7	2.6	-
	14	1000	stream	6.29	2.36	2.3	0.46	0.50	0.26	1.07	5.5	2.5	1.03
	15	800	stream	6.36	2.32	2.2	0.46	0.45	0.30	1.01	5.4	2.7	0.88
MEAN				6.32	2.23	2.23	0.45	0.47	0.25	1.03	6.20	2.60	0.96
S.D				0.03	0.15	0.05	0.01	0.02	0.05	0.03	1.06	0.08	0.07
Reference	Sept 15	1400	stream	6.39	2.15	2.2	0.44	0.45	0.26	1.03	5.0	2.5	0.84
pH 6.4	15	2000	stream	6.35	2.32	2.1	0.44	0.45	0.24	1.04	5.2	2.4	0.96
	16	800	stream	6.35	2.28	2.1	0.44	0.45	0.28	1.03	5.2	2.5	0.92
	16	2000	stream	6.34	2.35	2.1	0.52	0.45	0.28	1.03	5.1	4.1	0.91
	17	800	stream	6.36	2.38	2.0	0.50	0.50	0.20	1.09	4.8	2.4	0.99
	17	2000	stream	6.32	2.41	2.2	0.46	0.45	0.28	1.03	5.5	2.3	0.93
	18	800	stream	6.37	2.38	2.2	0.46	0.50	0.50	1.35	5.5	3.5	0.89
	18	2000	stream	6.35	2.37	2.0	0.46	0.50	0.40	0.97	4.7	4.3	0.85
	19	800	stream	6.36	2.23	2.0	0.46	0.45	0.28	0.99	5.2	3.7	0.83
MEAN				6.35	2.32	2.10	0.46	0.47	0.30	1.06	5.13	3.08	0.90
S.D				0.02	0.08	0.08	0.03	0.02	0.09	0.11	0.26	0.77	0.05
Reference	Sept 19	1400	stream	6.35	2.16	2.0	0.44	0.50	0.26	0.99	5.1	3.4	0.80
pH 6.4	19	2000	stream	6.36	2.20	2.0	0.44	0.50	0.26	0.95	5.2	3.4	0.83
	20	800	stream	6.37	2.17	1.9	0.44	0.40	0.24	0.94	5.2	3.0	0.79
	20	2000	stream	6.43	2.23	2.0	0.44	0.45	0.30	0.95	5.3	3.0	0.81
	21	800	stream	6.40	2.17	1.9	0.42	0.40	0.28	0.92	5.2	3.3	0.84
	21	2000	stream	6.41	2.20	1.8	0.42	0.45	0.24	0.92	5.2	3.1	0.81
	22	800	stream	6.43	2.22	1.9	0.44	0.45	0.22	0.90	5.3	2.9	0.85
	22	2000	stream	6.31	1.74	1.7	0.38	0.40	0.24	0.58	4.4	4.2	0.67
MEAN				6.38	2.14	1.90	0.43	0.44	0.26	0.89	5.11	3.29	0.80
S.D.				0.04	0.15	0.10	0.02	0.04	0.02	0.12	0.28	0.39	0.05
Post-treatment	Sept 23	800	stream	6.32	1.80	1.8	0.42	0.45	0.22	0.65	5.1	3.5	0.76

Table 6 cont'd

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE A
(reference)

	DATE	TIME	LOCATION	NH4-N ug/L	NO3-N ug/L	COLOUR	P ug/L	PP	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	Sept 13/82	1300	stream	2	107	17	59.1	-	0.060	-	-	-	0.170	0.02	0.28
	14	1000	stream	2	130	22	61.1	-	0.053	-	-	-	0.257	0.03	0.04
	15	800	stream	*	79	15	58.7	5.733	0.065	0	12.0	20.9	0.221	0.01	0.01
MEAN				1.3	105	18	59.6	5.733	0.059	0.3	12.0	20.9	0.213	0.03	0.11
S.D				0.9	21	3	1.0	0.000	0.005	0.0	0.0	0.0	0.032	0.01	0.17
Reference	Sept 15	1400	stream	*	65	22	62.2	-	0.040	-	-	-	0.175	0.02	0.01
pH 6.4	15	2000	stream	*	62	17	61.7	-	0.130	-	-	-	0.145	0.01	0.01
	16	800	stream	*	54	18	63.0	5.488	0.057	0	11.8	24.7	0.240	0.03	0.01
	16	2000	stream	2	50	15	58.2	-	0.043	-	-	-	0.139	0.02	0.02
	17	800	stream	1	57	8	56.7	5.574	0.032	0	12.3	19.8	0.179	0.02	0.01
	17	2000	stream	1	50	11	56.7	-	0.048	-	-	-	0.378	0.07	0.04
	18	800	stream	*	50	23	54.2	5.504	0.090	1	24.0	40.8	0.393	0.04	0.01
	18	2000	stream	*	17	39	0.0	-	0.105	-	-	-	0.761	0.04	0.02
	19	800	stream	*	18	26	53.0	5.556	0.070	1	12.7	33.5	0.340	0.03	0.01
MEAN				0.4	47	20	51.7	5.531	0.068	0.6	15.2	29.7	0.304	0.03	0.01
S.D				0.7	17	9	18.6	0.036	0.031	0.3	5.1	8.1	0.187	0.02	0.01
Reference	Sept 19	1400	stream	1	15	22	53.0	-	0.068	-	-	-	0.375	0.03	0.01
pH 6.4	19	2000	stream	*	15	24	53.0	-	0.130	-	-	-	0.425	0.04	0.01
	20	800	stream	*	23	15	52.3	5.543	0.064	0	13.9	24.7	0.210	0.01	0.02
	20	2000	stream	*	57	18	52.0	-	0.081	-	-	-	0.350	0.04	0.01
	21	800	stream	2	15	24	51.0	5.609	0.071	1	14.0	28.1	0.285	0.01	0.01
	21	2000	stream	*	12	22	50.8	-	0.060	-	-	-	0.300	0.03	0.01
	22	800	stream	*	20	17	50.4	5.612	0.045	1	10.8	23.2	0.305	0.04	0.01
	22	2000	stream	*	15	33	52.8	-	0.140	-	-	-	1.050	0.15	0.01
MEAN				0.4	22	22	51.9	5.588	0.082	0.6	12.9	25.3	0.413	0.04	0.01
S.D				0.7	14	5	1.0	0.032	0.032	0.3	1.5	2.0	0.248	0.04	0.01
Post-treatment	Sept 23	800	stream	*	12	22	50.7	5.607	0.110	-	-	-	0.700	0.10	0.01

Table 6 cont d

PLASTIC LAKE OUTFLOW
ACTUMN WATER CHEMISTRY
SITE A
(reference)

	DATE	TIME	LOCT N	Cond25 us/cm	NNTE_N ug/L	P ug/L	As ug/L	Cd ug/L	Co ug/L	Ni ug/L	Pb ug/L	Cu ug/L	Cr ug/L
Pretreatment	Sept 13/8[illegible]	13[illegible]	stream	17	190	6.77	*	**	*	*	***	0.003	0.004
	14	1000	stream	25	155	8.10	*	**	*	*	***	0.002	0.002
	15	9[illegible]	stream	24	160	9.03	*	**	*	*	***	0.003	*
MEAN				22	168	7.97	*	**	*	*	***	0.003	0.002
S D				4	15	0.93	*	**	*	*	***	0.000	0.002
Reference	Sept 15	1400	stream	24	150	7.83	*	0.0002	*	*	***	0.002	*
pH 6 4	15	2000	stream	23	145	7.50	*	**	*	*	***	*	*
	16	800	stream	23	150	8.85	*	**	*	*	***	*	*
	16	2000	stream	23	150	8.03	*	**	*	*	***	*	*
	17	800	stream	8	135	4.70	*	0.0002	*	*	***	*	*
	17	2000	stream	23	175	6.33	*	**	*	*	***	0.003	*
	18	800	stream	25	175	16.50	*	**	*	*	***	*	*
	18	2000	stream	22	230	16.00	*	**	*	*	***	0.003	*
	19	800	stream	22	175	11.00	*	**	*	*	***	*	*
MEAN				21	165	9 64	*	0.0000	*	*	***	0.001	*
S D				5	27	3.88	*	0.0001	*	*	***	0.001	*
Reference	Sept 13	1400	stream	22	205	11.00	*	**	*	*	***	*	*
pH 6 4	19	2000	stream	22	320	12.67	*	**	*	*	***	0.001	*
	20	800	stream	22	180	8.30	*	**	*	*	***	0.007	*
	20	2000	stream	23	180	14.33	*	**	*	*	***	0.002	*
	21	800	stream	23	180	9.40	*	**	*	*	***	0.012	*
	21	2000	stream	22	170	-	*	**	*	*	***	*	*
	22	800	stream	61	150	6.90	*	**	*	*	***	*	*
	22	2000	stream	20	265	22.00	*	**	*	*	***	*	*
MEAN				27	206	10.57	*	**	*	*	***	0.003	*
S D				13	54	5.93	*	**	*		***	0.004	*
Post-treatment	Sept 23	800	stream	21	195	13.50	*	0.0002	*	*	0.004	0.003	*

Table 7. Chemistry results from site B of the autumn experiment.

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE B
(treatment)

	DATE	TIME	LOCT'N	pH	Alk mg/L	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	SIO3 mg/L	SO4 mg/L	DOC mg/L	DIC mg/L
Pretreatment	Sept 15/82	800	stream	6.42	2.34	2.2	0.44	0.50	0.34	1.03	5.3	2.8	0.82
Treatment	Sept 15	1400	stream	4.64	-1.32	2.5	0.52	0.45	0.28	1.04	6.9	2.4	0.57
pH 4.8	15	2000	stream	4.58	-1.41	2.5	0.52	0.45	0.28	1.04	7.0	2.3	0.70
	16	800	stream	3.89	-7.46	2.4	0.50	0.45	0.30	1.02	6.8	2.4	0.70
	16	2000	stream	4.47	-1.66	2.5	0.58	0.45	0.28	1.03	6.9	2.8	0.69
	17	800	stream	4.64	-1.14	2.2	0.56	0.50	0.22	0.99	6.6	2.8	0.63
	17	2000	stream	4.64	-1.13	2.4	0.50	0.45	0.26	1.03	7.3	2.4	0.72
	18	800	stream	4.63	-1.15	2.5	0.52	0.45	0.54	1.32	7.5	3.4	0.74
	18	2000	stream	4.50	-1.69	2.2	0.54	0.50	0.38	1.02	7.2	4.1	-
	19	800	stream	4.60	-1.33	2.3	0.54	0.50	0.28	0.99	7.3	3.4	0.66
MEAN				4.51	-2.03	2.4	0.53	0.47	0.31	1.05	7.1	2.9	0.68
S.D.				0.23	1.93	0.1	0.03	0.02	0.09	0.10	0.3	0.6	0.05
Treatment	Sept 19	1400	stream	4.00	-5.26	2.5	0.58	0.50	0.28	0.99	9.5	3.4	-
pH 4.2	19	2000	stream	4.23	-3.35	2.4	0.58	0.50	0.28	0.97	8.6	3.3	0.68
	20	800	stream	4.11	-4.23	2.4	0.58	0.50	0.26	0.93	9.3	2.9	0.63
	20	2000	stream	4.10	-4.39	2.4	0.66	0.50	0.32	0.96	9.1	2.9	0.81
	21	800	stream	4.04	-5.05	2.1	0.56	0.50	0.28	0.95	8.6	3.1	0.67
	21	2000	stream	4.12	-4.47	2.2	0.58	0.40	0.26	0.93	8.5	3.0	0.63
	22	800	stream	4.07	-4.79	2.4	0.64	0.50	0.24	0.90	9.0	2.6	0.66
	22	2000	stream	4.07	-4.98	2.2	0.56	0.45	0.26	0.60	8.2	4.6	0.67
MEAN				4.09	-4.57	2.3	0.59	0.48	0.27	0.90	8.9	3.3	0.68
S.D.				0.06	0.57	0.1	0.03	0.03	0.02	0.12	0.4	0.5	0.23
Post-treatment	Sept 23	800	stream	4.07	-5.20	2.2	0.64	0.45	0.22	0.67	8.5	3.5	0.63

Table 7 cont d

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE B
(treatment)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOUR	P ug/L	PP	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	Sept 15/82	800	stream	*	76	22	60.8	5.647	0.190	0	13.3	22.5	0.595	0.091	0.01
Treatment	Sept 15	1400	stream	1	64	25	57.4	-	0.170	-	-	-	0.730	0.124	0.02
pH 4.8	15	2000	stream	1	62	22	59.0	-	0.150	-	-	-	0.495	0.081	0.01
	16	800	stream	1	54	22	62.1	5.816	0.140	18	42.0	45.6	0.720	0.122	0.02
	16	2000	stream	3	50	11	56.7	-	0.048	-	-	-	0.145	0.022	0.04
	17	800	stream	*	57	10	56.5	5.805	0.054	16	-	36.0	0.145	0.019	0.01
	17	2000	stream	*	48	8	56.5	-	0.054	-	-	-	0.195	0.025	0.03
	18	800	stream	2	53	17	53.0	5.758	0.089	21	34.8	44.7	0.505	0.052	0.01
	18	2000	stream	1	18	36	55.3	-	0.130	-	-	-	0.755	0.053	0.03
	19	800	stream	1	18	18	51.7	5.857	0.088	20	37.7	44.2	0.350	0.021	0.01
MEAN				1.1	47	19	56.5	2.582	0.103	8	12.7	18.9	0.449	0.058	0.02
S.D.				0.9	16	8	2.9	2.887	0.044	9	18.1	21.3	0.238	0.040	0.01
Treatment	Sept 19	1400	stream	2	15	22	53.0	-	0.043	-	-	-	0.320	0.021	0.02
pH 4.2	19	2000	stream	1	15	17	53.1	-	0.110	-	-	-	0.400	0.035	0.01
	20	800	stream	2	23	14	52.0	5.891	0.062	28	26.7	41.2	0.245	0.021	0.07
	20	2000	stream	*	57	15	51.5	-	0.081	-	-	-	0.370	0.048	0.01
	21	800	stream	*	15	23	51.0	6.059	0.080	24	42.3	40.6	0.260	0.020	0.01
	21	2000	stream	*	12	17	52.5	-	0.064	-	-	-	0.240	0.023	0.02
	22	800	stream	1	20	16	50.4	5.992	0.060	24	33.8	40.8	0.195	0.020	0.01
	22	2000	stream	*	15	23	53.5	-	0.170	-	-	-	1.300	0.163	0.02
MEAN				0.8	22	18	52.1	5.981	0.084	25	34.3	40.9	0.416	0.044	0.02
S.D.				0.8	14	3	1.0	0.069	0.037	2	6.4	0.2	0.340	0.046	0.02
Post-treatment	Sept 23	800	stream	1	10	22	50.4	6.000	0.120	-	-	-	0.595	0.08	0.01

Table 7 cont'd

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE B
(treatment)

	DATE	TIME	LOCT'N	Cond25 um/cm	NNTE_N ug/L	P ug/L	As ug/L	Cd ug/L	Co ug/L	Ni ug/L	Pb ug/L	Cu ug/L	Cr ug/L
Pretreatment	Sept 15/8	800	stream	24	200	23.33	*	**	0.001	*	***	*	*
Treatment pH 4.8	15	1400	stream	35	185	20.00	*	**	*	*	***	0.001	*
	15	2000	stream	36	160	12.00	*	**	*	*	***	*	*
	16	800	stream	36	155	17.00	*	**	*	*	***	0.001	*
	16	2000	stream	38	170	10.87	*	**	*	*	***	0.001	0.002
	17	800	stream	10	140	8.53	*	**	*	*	0.004	*	*
	17	2000	stream	34	140	5.03	*	**	*	*	***	0.005	0.001
	18	800	stream	35	165	10.50	*	**	*	*	***	*	*
	18	2000	stream	33	230	17.67	*	**	0.001	*	***	0.005	0.001
	19	800	stream	33	180	9.70	*	**	*	*	***	*	*
MEAN				32	169	12.37	*	**	*	*	***	0.001	*
S.D.				8	26	4.59	*	**	*	*	***	0.002	0.001
Treatment pH 4.2	19	1400	stream	60	210	14.33	*	**	*	*	***	0.003	*
	19	2000	stream	48	240	11.33	*	**	*	*	***	0.002	*
	20	800	stream	58	195	8.87	*	**	*	*	***	0.002	*
	20	2000	stream	60	175	13.00	*	**	*	*	***	0.001	*
	21	800	stream	58	180	8.07	*	**	*	*	***	0.007	*
	21	2000	stream	58	160	10.67	*	**	*	*	***	0.002	*
	22	800	stream	60	160	9.93	*	**	*	*	***	*	*
	22	2000	stream	56	260	27.67	*	**	*	*	0.004	0.002	*
MEAN				57	198	12.98	*	**	*	*	***	0.002	*
S.D.				4	34	5.87	*	**	*	*	***	0.002	*
Post-treatment	23	800	stream	60	210	19.00	*	**	*	*	***	*	*

Table 8. Chemistry results from site C of the autumn experiment.

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE C
(treatment)

	DATE	TIME	LOCATION	pH	Alk ug/L	Ca ug/L	Mg ug/L	Na ug/L	K ug/L	SIO3 ug/L	SO4 ug/L	DOC ug/L	DIC ug/L
Pretreatment	Sept 15/82	800	stream	6.41	2.29	2.2	0.44	0.50	0.32	1.01	5.3	2.6	0.79
Treatment pH 4.8	Sept 15	1400	stream	4.75	-0.93	2.5	0.52	0.45	0.30	1.10	6.8	2.5	0.50
	15	2000	stream	4.66	-1.19	2.4	0.50	0.45	0.28	1.04	7.0	2.4	0.61
	16	800	stream	4.60	-1.41	2.3	0.50	0.45	0.32	1.02	7.0	2.5	0.59
	16	2000	stream	4.52	-1.51	2.2	0.56	0.50	0.26	1.02	6.7	2.8	0.57
	17	800	stream	4.66	-1.03	2.1	0.54	0.50	0.22	0.98	6.7	2.5	0.58
	17	2000	stream	4.74	-0.86	2.4	0.50	0.45	0.28	1.05	7.3	2.4	0.66
	18	800	stream	4.61	-1.19	2.4	0.50	0.50	0.52	1.34	7.5	3.4	0.68
	18	2000	stream	4.55	-1.51	2.2	0.52	0.50	0.42	1.02	7.2	4.1	0.67
	19	800	stream	4.63	-1.21	2.2	0.54	0.45	0.28	0.99	7.3	3.4	0.63
MEAN				4.64	-1.21	2.3	0.52	0.47	0.32	1.06	7.1	2.9	0.61
S.D.				0.07	0.22	0.1	0.02	0.02	0.09	0.10	0.3	0.6	0.05
Treatment pH 4.2	Sept 19	1400	stream	4.14	-3.97	2.3	0.54	0.50	0.28	0.98	9.0	3.4	0.60
	19	2000	stream	2.24	-3.05	2.2	0.52	0.45	0.28	0.96	8.7	3.3	0.60
	20	800	stream	4.12	-3.99	2.2	0.52	0.45	0.26	0.93	9.3	2.9	0.59
	20	2000	stream	4.11	-4.25	2.2	0.62	0.45	0.32	0.94	9.8	2.9	0.61
	21	800	stream	4.00	-6.00	2.1	0.56	0.50	0.28	0.95	8.6	3.1	0.61
	21	2000	stream	4.10	-4.43	2.2	0.56	0.45	0.28	0.93	8.6	3.0	0.58
	22	800	stream	4.10	-4.57	2.1	0.56	0.45	0.26	0.84	8.9	2.8	0.61
	22	2000	stream	4.21	-3.60	2.0	0.50	0.45	0.24	0.60	7.5	4.1	0.57
MEAN				3.88	-4.23	2.2	0.55	0.46	0.28	0.89	8.8	3.2	0.53
S.D.				0.62	0.81	0.1	0.03	0.02	0.02	0.12	0.6	0.4	0.19
Post-treatment	Sept 23	800	stream	4.06	-4.95	2.0	0.54	0.45	0.20	0.65	8.6	3.5	0.58

Table 8 cont'd

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE C
(treatment)

	DATE	TIME	LOCT'N	NH4-N ug/L	NO3-N ug/L	COLOUR	F ug/L	PF	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	Sept 15/82	800	stream	*	83	20	61.0	5.668	0.070	2	18.0	27.5	0.230	0.03	0.01
Treatment	Sept 15	1400	stream	1	65	20	58.3	-	0.230	-	-	-	0.270	0.04	0.02
pH 4.8	15	2000	stream	1	62	18	60.5	-	0.380	-	-	-	0.155	0.03	0.02
	16	800	stream	1	55	23	57.5	5.797	0.090	19	40.4	47.9	0.325	0.04	0.04
	16	2000	stream	*	50	10	57.8	-	0.069	-	-	-	0.260	0.05	0.06
	17	800	stream	1	57	8	56.0	5.794	0.120	16	33.5	39.8	0.175	0.03	0.01
	17	2000	stream	*	48	33	56.0	-	0.140	-	-	-	0.810	0.13	0.02
	18	800	stream	4	53	21	53.2	5.772	0.090	20	38.6	43.3	0.330	0.04	0.01
	18	2000	stream	1	18	38	55.5	-	0.200	-	-	-	0.610	0.03	0.04
	19	800	stream	1	18	18	51.8	5.827	0.066	19	40.3	43.8	0.350	0.02	0.40
MEAN				1.1	47	21	56.3	5.798	0.154	18	38.3	45.2	0.368	0.05	0.07
S.D.				1.1	16	9	2.5	0.020	0.096	1	2.8	3.7	0.197	0.03	0.12
Treatment	Sept 19	1400	stream	1	15	17	53.0	-	0.072	-	-	-	0.350	0.03	0.04
pH 4.2	19	2000	stream	1	15	17	53.7	-	0.100	-	-	-	0.415	0.04	0.01
	20	800	stream	1	23	11	52.2	5.972	0.079	30	42.3	46.3	0.330	0.04	0.01
	20	2000	stream	*	65	21	51.5	-	0.099	-	-	-	0.450	0.06	0.03
	21	800	stream	*	15	20	51.0	6.015	0.070	26	47.2	44.4	0.285	0.03	0.01
	21	2000	stream	1	12	15	52.0	-	0.072	-	-	-	0.215	0.02	0.05
	22	800	stream	*	20	12	52.0	6.007	0.096	33	40.2	45.9	0.400	0.05	0.01
	22	2000	stream	*	15	29	53.6	-	0.250	-	-	-	1.500	0.22	0.01
MEAN				0.5	23	18	52.4	5.998	0.105	30	43.2	45.5	0.493	0.06	0.02
S.D.				0.5	16	5	0.9	0.019	0.056	3	2.9	0.8	0.387	0.06	0.01
Post-treatment	Sept 23	800	stream	*	8	17	50.0	6.042	0.120	-	-	-	0.520	0.07	0.01

Table 8 cont d

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE C
(treatment)

	DATE	TIME	LOCTN	Cond25 um/cm	NNTX_N ug/L	P ug/L	As ug/L	Cd ug/L	Co ug/L	Ni ug/L	Pb ug/L	Cu ug/L	Cr ug/L
Pretreatment	Sept 15/82	800	stream	24	170	11.00	*	**	*	*	***	0.002	*
Treatment	Sept 15	1400	stream	34	210	8.67	*	**	*	*	***	*	*
pE 4 8	15	2000	stream	35	155	9.50	*	**	0.002	*	***	*	*
	16	800	stream	36	200	10.03	*	**	*	*	***	*	*
	16	2000	stream	38	170	9.60	*	0.0003	*	*	***	0.001	0.002
	17	800	stream	8	150	12.00	*	0.0002	*	*	0.004	*	0.003
	17	2000	stream	33	215	39.67	*	**	*	*	***	0.001	0.001
	18	800	stream	36	200	15.00	*	**	*	*	***	*	*
	18	2000	stream	34	240	17.50	*	**	0.001	*	***	0.015	0.001
	19	800	stream	33	185	14.00	*	**	*	*	***	*	*
MEAN				32	192	15.11	*	**	*	*	***	0.002	0.001
S D				9	28	9.12	*	**	*	*	***	0.005	0.001
Treatment	Sept 19	1400	stream	52	235	9.55	*	**	*	*	***	*	*
pE 4 2	19	2000	stream	50	235	15.00	*	**	0.001	*	***	0.002	*
	20	800	stream	58	195	9.17	*	**	*	*	***	0.002	*
	20	2000	stream	70	200	15.67	*	**	*	*	***	0.002	*
	21	800	stream	58	190	8.03	*	0.0002	*	*	***	0.003	*
	21	2000	stream	58	170	11.33	*	0.0002	*	*	***	0.001	*
	22	800	stream	61	160	13.67	*	**	*	*	0.003	*	*
	22	2000	stream	49	295	40.00	*	0.0002	0.001	*	***	*	*
MEAN				57	210	15.30	*	**	*	*	***	0.001	*
S D				6	41	9.70	*	**	*	*	***	0.001	*
Post-treatment	Sept 23	800	stream	60	210	17.00	*	**	*	*	0.003	0.002	*

Table 9. Chemistry results from site D of the autumn experiment.

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE D
(treatment)

	DATE	TIME	LOCTN	pH	Alk ug/L	Ca ug/L	Mg ug/L	Na ug/L	K ug/L	SIO3 ug/L	SO4 ug/L	DOC ug/L	DIC ug/L
Pretreatment	Sept 13/82	1300	stream	5.93	2.04	2.2	0.42	0.45	0.20	1.03	5.7	2.2	-
	14	1000	stream	6.00	2.41	2.3	0.44	0.45	0.38	1.01	5.6	2.4	1.88
	15	800	stream	6.13	2.29	2.2	0.46	0.45	0.34	1.03	5.4	2.6	1.33
MEAN				6.02	2.25	2.2	0.44	0.45	0.31	1.02	5.6	2.4	1.61
S.D				0.06	0.06	0.1	0.01	0.00	0.02	0.01	0.1	0.1	0.28
Treatment	Sept 15	1400	stream	5.39	0.23	2.5	0.50	0.45	0.28	1.05	6.7	2.2	1.12
pH 4.8	15	2000	stream	5.28	0.17	2.4	0.48	0.45	0.26	1.07	6.7	2.0	1.40
	16	800	stream	4.87	-0.57	2.3	0.44	0.40	0.32	1.03	6.9	2.3	1.04
	16	2000	stream	5.00	-0.24	2.3	0.54	0.55	0.28	1.09	6.7	2.5	1.31
	17	800	stream	5.00	-0.30	2.2	0.54	0.50	0.20	1.01	6.4	2.6	1.18
	17	2000	stream	5.19	0.03	2.4	0.48	0.50	0.26	1.08	7.2	2.1	1.37
	18	800	stream	4.70	-0.94	2.4	0.50	0.50	0.52	1.32	7.4	3.3	0.77
	18	2000	stream	4.71	-0.99	2.4	0.52	0.50	0.36	1.02	6.9	3.4	0.67
	19	800	stream	4.72	-0.95	2.3	0.52	0.50	0.28	1.05	7.3	3.7	0.66
MEAN				4.98	-0.40	2.4	0.50	0.48	0.31	1.05	6.9	2.7	1.06
S.D				0.24	0.46	0.1	0.03	0.04	0.09	0.09	0.3	0.6	0.28
Treatment	Sept 19	1400	stream	4.31	-2.79	2.2	0.52	0.50	0.28	1.00	8.2	3.3	0.69
pH 4.2	19	2000	stream	4.32	-2.57	2.3	0.52	0.45	0.26	0.99	8.5	3.2	0.69
	20	800	stream	4.24	-3.51	2.6	0.66	0.55	0.26	0.94	9.0	2.8	0.41
	20	2000	stream	4.14	-3.85	2.2	0.58	0.45	0.34	0.94	8.7	2.8	0.57
	21	800	stream	4.19	-3.63	2.1	0.54	0.45	0.30	0.95	8.5	3.0	0.54
	21	2000	stream	4.16	-3.75	2.1	0.54	0.45	0.26	0.95	8.5	2.9	0.59
	22	800	stream	4.12	-4.29	2.1	0.54	0.45	0.24	0.87	8.8	2.9	0.53
	22	2000	stream	4.44	-2.03	2.0	0.48	0.45	0.26	0.62	6.7	4.2	0.53
MEAN				4.24	-3.30	2.2	0.55	0.47	0.28	0.91	8.4	3.1	0.57
S.D.				0.10	0.71	0.2	0.05	0.03	0.03	0.11	0.7	0.4	0.09
Post-treatment	Sept 23	800	stream	4.20	-3.48	2.1	0.54	0.45	0.22	0.68	8.0	3.4	0.58

Table 9 cont d

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE D
(treatment)

	DATE	TIME	LOCT N	NH4-N ug/L	NO3-N ug/L	COLOUR	F ug/L	PF	Al ug/L	Al 1 ug/L	Al 2 ug/L	Al 3 ug/L	Fe mg/L	Mn mg/L	Zn mg/L
Pretreatment	Sept 13/82	1300	stream	*	75	14	56.7	-	0.069	-	-	-	0.210	0.03	0.35
	14	1000	stream	1	105	18	55.9	-	0.070	-	-	-	0.100	0.02	0.11
	15	800	stream	1	70	18	59.7	5.571	0.043	1	16.3	31.5	0.120	0.01	0.01
MEAN				0.7	83	17	57.4	5.571	0.061	1	16.3	31.5	0.143	0.02	0.16
S.D				0.0	18	0	1.9	0.000	0.014	-	-	-	0.052	0.00	0.05
Treatment pE 4.8	Sept 15	1400	stream	*	48	18	50.9	-	0.06	-	-	-	0.120	0.02	0.01
	15	2000	stream	1	45	18	54.9	-	0.07	-	-	-	0.105	0.02	0.02
	16	800	stream	2	48	15	55.0	5.806	0.070	23	59.9	60.3	0.130	0.03	0.06
	16	2000	stream	*	35	10	55.0	-	0.084	-	-	-	1.820	0.30	0.02
	17	800	stream	1	45	11	51.9	5.787	0.050	20	43.7	51.7	0.120	0.03	0.01
	17	2000	stream	1	38	15	52.2	-	0.260	-	-	-	4.150	0.73	0.07
	18	800	stream	*	53	19	53.2	5.816	0.120	25	47.7	55.8	0.380	0.05	0.01
	18	2000	stream	*	18	35	50.9	-	0.120	-	-	-	0.120	0.02	0.02
	19	800	stream	1	18	24	50.1	5.854	0.080	20	36.9	50.9	0.340	0.03	0.01
MEAN				0.7	39	18	52.7	5.816	0.102	22	47.1	54.7	0.809	0.14	0.02
S.D				0.7	12	7	1.8	0.024	0.060	2	8.4	3.7	1.290	0.23	0.02
Treatment pE 4.2	Sept 19	1400	stream	1	17	16	53.0	-	0.080	-	-	-	0.305	0.03	0.02
	19	2000	stream	*	17	11	55.5	-	0.120	-	-	-	1.430	0.15	0.01
	20	800	stream	1	22	15	48.7	6.077	0.02	40	56.1	61	0.310	0.04	0.00
	20	2000	stream	*	65	20	50.2	-	0.15	-	-	-	0.520	0.08	0.01
	21	800	stream	*	15	24	50.6	6.061	0.070	36	56.5	56.3	0.255	0.03	0.01
	21	2000	stream	*	12	17	52.0	-	0.079	-	-	-	0.350	0.05	0.02
	22	800	stream	*	20	13	51.0	6.058	0.078	37	51.7	55.2	0.185	0.03	0.01
	22	2000	stream	*	15	29	51.3	-	0.210	-	-	-	1.150	0.15	0.01
MEAN				0.3	23	18	51.5	6.065	0.101	38	54.8	57.4	0.563	0.07	0.01
S.D				0.4	16	6	1.9	0.008	0.054	1	2.2	2.4	0.435	0.05	0.00
Post-treatment	Sept 23	800	stream	*	10	27	50.5	6.072	0.230	-	-	-	1.330	0.20	0.02

Table 9 cont d

PLASTIC LAKE OUTFLOW
AUTUMN WATER CHEMISTRY
SITE D
(treatment)

	DATE	TIME	LOCATION	Cond25 um/cm	NNTX_N ug/L	P ug/L	As ug/L	Cd ug/L	Co ug/L	Ni ug/L	Pb ug/L	Cu ug/L	Cr ug/L
Pretreatment	Sept 13/82	1300	stream	14	170	7.73	*	**	*	*	***	0.004	0.005
	14	1000	stream	26	155	7.23	*	**	*	*	***	0.002	0.002
	15	800	stream	24	155	4.83	*	**	*	*	***	0.003	*
MEAN				21	160	6.60	*	**	*	*	***	0.003	0.002
S.D				5	7	1.27	*	**	*	*	***	0.001	0.002
Treatment pH 4.8	Sept 15	1400	stream	29	165	4.87	*	**	*	*	***	*	*
	15	2000	stream	29	140	6.30	*	**	*	*	***	0.002	*
	16	800	stream	32	140	4.73	*	**	*	*	***	*	*
	16	2000	stream	31	145	6.23	*	0.0003	*	0.003	***	*	*
	17	800	stream	11	135	5.15	*	**	*	*	***	*	*
	17	2000	stream	30	245	34.00	*	**	0.002	*	***	0.002	0.001
	18	800	stream	35	185	16.00	*	**	0.001	0.001	***	0.001	*
	18	2000	stream	33	215	12.00	*	**	0.001	*	***	0.002	*
	19	800	stream	32	180	9.47	*	**	*	*	***	*	*
MEAN				29	172	10.97	*	**	*	*	***	0.001	*
S.D				7	36	8.90	*	**	0.001	0.001	***	0.001	*
Treatment pH 4.2	Sept 19	1400	stream	45	205	8.80	*	**	*	*	***	*	0.005
	19	2000	stream	47	190	9.10	*	**	*	*	***	0.001	*
	20	800	stream	50	235	14.33	*	**	*	0.001	0.004	0.005	*
	20	2000	stream	53	190	20.50	*	**	*	*	***	0.013	*
	21	800	stream	18	180	8.53	*	0.0003	*	*	***	0.003	*
	21	2000	stream	55	175	9.35	*	0.0002	*	*	***	0.001	*
	22	800	stream	81	150	7.97	*	0.0002	*	*	***	0.001	*
	22	2000	stream	38	275	55.00	*	**	0.001	*	0.005	*	*
MEAN				48	200	16.70	*	**	*	*	***	0.003	0.001
S.D				16	36	15.02	*	**	*	*	***	0.004	0.002
Post-treatment	Sept 23	800	stream	50	265	42.50	*	0.0003	0.001	*	***	0.007	0.001

Table 10. Summary of life stages, functional and behavioural groups of organisms collected.

LIFE STAGES:

L=Larvae P=Pupae N=Nymph A=Adult

BEHAVIOURAL GROUPS:

Bu=Burrower Cl=Clinger Cm=Climber
Sk=Skater Sp=Sprawler Sw=Swimmer
Non aq=Non aquatic

FUNCTIONAL GROUPS:

C/F=Collector, Filterer C/G=Collector, Gatherer En=Engulfer
Sc=Scraper Sh/D=Shredder, Detritivore Para=Parasitic
Non aq=Non aquatic

FUNCTIONAL AND BEHAVIOURAL GROUPS OF ORGANISMS COLLECTED

TAXA	BEHAVIOURAL GROUP	FUNCTIONAL GROUP
EPHEMEROPTERA		
Siphloneuridae		
Amelitus	Sw	C/G
Ephemerellidae		
Ephemerella	Sw	C/G
Heptageniidae		
Stenonema	Cl	C/G
Leptophlebiidae		
Paraleptophlebia	Sw	C/G
PLECOPTERA		
Leuctridae		
Leuctra	Cl	Sh/D
Nemouridae		
Nemoura	Cl	Sh/D
Amphinemoura		
DIPTERA		
Chironomidae		
Pentaneurini	Sp	En
Larsia	Sp	En
Paramerina	Sp	En
Thienemannimyia	Sp	En
Macropelopiini	Sp	En
Procladius	Sp	En
Chironomini	Bu	C/G
Polypedilum	Cl	Sh/D
Chironomus	Bu	C/G
Tanytarsini	Cl	C/F
Tanytarsus	Bu	C/G
Corynoneurini	Sp	C/G
Thienemanniella	Sp	C/G
Corynoneura	Sp	C/G

Table 10 cont'd

TAXA	BEHAVIOURAL GROUP	FUNCTIONAL GROUP
DIPTERA cont'd		
Orthocladiini	Sp	C/G
Cricotopus	Cl	Sh/D
Eukiefferiella	Sp	C/G
Parametriocnemus	Sp	C/G
Psectrocladius	Sp	C/G
Pseudosmittia	Sp	C/G
Rheocricotopus	Cl	C/F
Simuliidae		
Simulium	Cl	C/F
Prosimulium	Cl	C/F
Ectemnia	Cl	C/F
Athericidae		
Atherix	Sp	En
Ceratopogonidae	Sp	En
Culicoides	Bu	En
Empididae	Sp	En
Stratiomyidae	Su	C/G
Syrphidae	Bu	C/G
Tipulidae	Bu	C/G
Heleomyzidae	Non aq	Non aq
Sciomyzidae	Bu	En
Muscidae	Sp	En
Culicidae	Su	C/F
Tabanidae	Sp	En
Rhagionidae	Sp	En
Dryomyzidae	Bu	En
Lonchaeidae	Non aq	Non aq
Mycetophilidae	Non aq	Non aq
Dolichopodidae	Sp	En
Xylophagidae	Non aq	Non aq
Pharidae	Non aq	Non aq
TRICHOPTERA		
Philopotamidae	Cl	C/F
Dolophilodes	Cl	C/F
Psychomyiidae	Cl	C/G
Psychomyia	Cl	C/G
Polycentropidae	Cl	En
Polycentropus	Cl	En
Cyrnellus	Cl	C/F
Hydropsychidae	Cl	C/F
Diplectrona	Cl	C/F
Rhyacophilidae	Cl	En
Glossosomatidae	Cl	Sc
Glossosoma	Cl	Sc

TAXA	BEHAVIOURAL GROUP	FUNCTIONAL GROUP
TRICHOPTERA cont'd		
Brachycentridae	Cl	C/F
Brachycentrus	Cl	C/F
Lepidostomatidae	Sp	Sh/D
Lepidostoma	Sp	Sh/D
Limnephilidae		
Neophylax	Cl	Sc
Limnephilus	Cl	Sh/D
Platycentropus	Cm	Sh/D
Ironoquia	Sp	Sh/D
Pycnopsyche	Cl	Sh/D
Pseudotenophylax	Sp	Sh/D
Hydroptilidae	Cl	Sc
Phryganeidae	Cm	Sh/D
Ptilostomis	Cm	Sh/D
COLEOPTERA		
Amphizoidae		
Amphizoa	Cl	En
Carabidae	Su	Sh/D
Haliplidae		
Haliplus	Su	Sh/D
Dytiscidae		
Dytiscus	Su	En
Agabus	Su	En
Hydaticus	Su	En
Hydroporus	Su	En
Hydrophilidae		
Hydrochara	Cl	Sc
Berosus	Cl	Sc
Staphylinidae	Non aq	Non aq
Psephenidae		
Ectopria	Cl	Sc
Dryopidae		
Dryops	Cl	Sc
Hydrophilidae		
Hydrophilus	Su	Sh/D
Elmidae		
Stenelmis	Cl	Sc
Bostrichidae	Non aq	Non aq
Melyridae	Sp	Sc
Chrysomelidae		
Donacia	Cl	Sh/D
Curculionidae	Non aq	Non aq
Lampyridae	Non aq	Non aq
Sphaeriidae	Bu	Sc
Corbiculidae	Non aq	Non aq

Table 10 cont'd

TAXA	BEHAVIOURAL GROUP	FUNCTIONAL GROUP
HEMIPTERA		
Corixidae		
Sigara	Su	Fr
Gerridae		
Rheumatobates	Sk	Fr
Notonectidae		
Notonecta	Su	Fr
Cercopidae	Non aq	Non aq
Pentatomidae	Non aq	Non aq
Issidae	Non aq	Non aq
Miridae	Non aq	Non aq
Coccidae	Non aq	Non aq
LEPIDOPTERA		
Tortricidae		
Archips	Bu	Sh/D
Pyralidae		
Acentropus	Su	Sh/D
HYMENOPTERA		
Ichneumonidae	Non aq	Non aq
Chalcidoidea	Non aq	Non aq
Formicidae	Non aq	Non aq
Tenthredinidae	Non aq	Non aq
Mymaridae	Non aq	Non aq
Cynipidae	Non aq	Non aq
Andronidae	Non aq	Non aq
Eulophidae	Non aq	Non aq
Platygasteridae	Non aq	Non aq
HOMOPTERA		
Aphididae	Non aq	Non aq
PSOCOPTERA		
Trogiidae	Non aq	Non aq

TAXA	BEHAVIOURAL GROUP	FUNCTIONAL GROUP
ODONATA		
Libellulidae		
Libellula	Sp	Pr
Cordulogastridae	Bu	Pr
MISCELLANEOUS		
Triclodida	Cl	C/G
Nematoda	Cl	C/G
Oligochaeta	Bu	C/G
Cyclopoida	Sw	C/G
Harpacticoida	Sw	C/G
Ostracoda	Sw	C/G
Araneidae	Non aq	Non aq
Acarina	Sw	C/G
Collembola	Sp	C/G
Tartigrada	Cl	C/G
Lepomis	Sw	Pr
Eucalia	Sw	Pr
Chrosomus	Sw	Pr
Crangonyx	Bu	C/G
Rana		C/F
Plethodon	Sw	Pr
Bufo		
Cambarus	Cl	Pr
Napeozapus		
Pseudoscorpionida		
Spirobolidae		
Chrysopa		
Sphaerium	Cl	C/F
Planorbis	Cl	C/F
Ixodidae	Non aq	Non aq
Gordiidae	Cl	C/G

Table 11. Summary of pretreatment benthic samples by taxonomic order from the reference area of the spring experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
SPRING EXPERIMENT
(numbers per square meter)
PRE-TREATMENT SAMPLES - REFERENCE AREA

	FAST (RIFFLE AREA)											
TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	MEAN CORE 1-10	S.D. 1-10
EPHEMEROPTERA	0	32	32	64	32	0	0	0	0	0	16	21
PLECOPTERA	891	636	1685	1336	1018	1431	1622	572	2099	2066	1336	520
DIPTERA	1241	1145	2227	2767	2545	2068	5946	1845	1879	3308	2497	1308
TRICHOPTERA	0	128	128	64	64	96	255	32	32	96	90	68
COLEOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	32	0	0	0	0	0	0	3	10
HOMOPTERA	0	0	0	0	0	32	0	0	0	0	3	10
MISCELLANEOUS	2258	1336	5629	1718	3021	3784	2066	3720	3912	3624	3107	1224

	SLOW (POOL AREA)						
TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE 11-15	S.D. 11-15
EPHEMEROPTERA	0	0	0	0	503	102	201
PLECOPTERA	1049	11321	64	0	0	2487	4435
DIPTERA	7378	12881	2927	3276	3945	6081	3750
TRICHOPTERA	0	503	0	0	0	102	201
COLEOPTERA	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	19462	12275	10558	12466	7219	12396	4003

Table 12. Summary of pretreatment benthic samples by taxonomic order from the treatment area of the spring experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
SPRING EXPERIMENT
(numbers per square meter)
PRE TREATMENT SAMPLES - TREATMENT AREA

	FAST (RIFFLE AREA)											
TAXA	CORE 1	CORE 2	CORE 4	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	MEAN CORE	S.D. 1-10
EPHEMEROPTERA	0	0	0	0	0	0	64	0	64	0	13	26
PLECOPTERA	1177	318	222	223	3244	191	1621	64	858	1558	948	947
DIPTERA	3415	1043	2227	1136	2767	605	4550	762	2103	1751	2063	1184
TRICHOPTERA	224	64	32	32	191	0	96	32	223	0	89	85
COLEOPTERA	0	0	0	0	0	0	32	0	0	0	3	10
LEPIDOPTERA	0	32	0	0	0	0	0	0	0	0	3	10
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	1940	3403	2418	3276	6297	3054	1908	2258	3116	7791	3546	1852

	SLOW (POOL AREA)						
TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE	S.D. 11-15
EPHEMEROPTERA	0	0	0	0	0	0	0
PLECOPTERA	2036	1018	1018	1050	1081	1241	398
DIPTERA	32	3309	2130	4325	4801	2919	1710
TRICHOPTERA	0	0	0	0	0	0	0
COLEOPTERA	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	27508	11258	28620	14278	17076	13748	7044

Table 13. Summary of post treatment benthic samples by taxonomic order from the reference area of the spring experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
SPRING EXPERIMENT
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

	FAST (RIFFLE AREA)											
TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	MEAN CORE	S.D. 1-10
EPHEMEROPTERA	0	32	0	32	32	32	0	32	0	0	16	16
PLECOPTERA	2385	2004	795	1240	1749	509	3085	1431	1082	604	1488	784
DIPTERA	5377	3753	1909	1337	3435	3595	2291	1784	5501	14214	4320	3568
TRICHOPTERA	192	192	160	64	96	128	64	191	127	64	128	51
COLEOPTERA	0	32	0	0	0	32	0	32	0	0	10	15
LEPIDOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	1845	4923	1308	1018	3784	3149	541	2035	191	1336	2074	1410

	SLOW (POOL AREA)					
TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE 11-15	S.D. 11-15
EPHEMEROPTERA	0	0	0	0	508	102	203
PLECOPTERA	1127	2957	4897	541	3276	2520	1557
DIPTERA	10367	6402	5469	2855	10159	7667	4552
TRICHOPTERA	32	223	64	573	541	287	230
COLEOPTERA	0	127	0	0	32	32	49
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	48018	30528	30604	31641	52566	40271	8256

Table 14. Summary of post treatment benthic samples by taxonomic order from the treatment area of the spring experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
SPRING EXPERIMENT
(numbers per square meter)
POST TREATMENT SAMPLES - TREATMENT AREA

	FAST (RIFFLE AREA)											
TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	MEAN CORE	S.D. 1-10
EPHEMEROPTERA	0	0	0	0	0	0	0	0	0	0	0	0
PLECOPTERA	286	349	1593	954	64	761	191	954	254	191	556	456
DIPTERA	829	669	701	478	1464	956	891	923	1337	795	904	283
TRICHOPTERA	32	64	159	0	64	96	0	96	160	96	77	54
COLEOPTERA	0	32	0	0	0	0	0	0	0	0	3	10
LEPIDOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	2671	1845	1718	2162	1813	1781	2449	859	1050	923	1727	590

	SLOW (POOL AREA)						
TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE	S.D. 11-15
EPHEMEROPTERA	0	0	0	0	0	0	0
PLECOPTERA	32	1622	0	3243	2036	1387	1239
DIPTERA	5312	3530	2481	19875	32	6246	7025
TRICHOPTERA	1050	0	0	0	0	210	420
COLEOPTERA	0	0	0	32	0	6	13
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	30877	38828	32087	33167	27508	32493	3694

Table 15. Summary of pretreatment benthic samples by taxonomic order from the reference area of the autumn experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
(numbers per square meter)
AUTUMN EXPERIMENT
PRE-TREATMENT SAMPLES - REFERENCE AREA

TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10
EPHEMEROPTERA	127	318	32	0	2226	0	0	0	0	0
PLECOPTERA	191	32	0	763	0	0	0	0	1272	0
DIPTERA	48687	16028	32113	45154	28367	70723	13515	88150	71740	77686
TRICHOPTERA	128	32	32	0	96	0	95	32	0	0
COLEOPTERA	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	2925	1590	1685	5597[3]	6646	11258	7982	21561	16090	12370

TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE 1-15	S.D. 1-15
EPHEMEROPTERA	0	0	64	954	1017	316	607
PLECOPTERA	0	0	2289	0	0	303	638
DIPTERA	63038	1940	16155	25694	35649	42710	26127
TRICHOPTERA	0	32	0	0	508	64	125
COLEOPTERA	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	4770	254	6169	1654	6869	7161	5763

Table 16. Summary of pretreatment benthic samples by taxonomic order from the treatment area of the autumn experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
(numbers per square meter)
AUTUMN EXPERIMENT
PRE-TREATMENT SAMPLES - TREATMENT AREA

TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10
EPHEMEROPTERA	0	96	1177	509	540	0	1781	1304	350	127
PLECOPTERA	573	254	1081	954	572	0	0	0	477	95
DIPTERA	122908	61787	58452	86623	71775	149684	84685	95626	80010	76066
TRICHOPTERA	159	224	572	350	351	222	96	859	96	64
COLEOPTERA	0	0	0	0	0	0	0	96	0	0
LEPIDOPTERA	0	0	0	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	8800	3625	2321	4929	5055	3625	3752	10145	7569	6328

TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE 1-15	S.D. 1-15
EPHEMEROPTERA	795	0	0	32	0	447	553
PLECOPTERA	0	0	0	0	32	269	360
DIPTERA	94033	57751	12117	123512	31166	80413	34113
TRICHOPTERA	130	96	128	96	255	251	203
COLEOPTERA	0	0	0	0	32	9	25
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	6043	2855	2385	5175	6329	5610	2225

Table 17. Summary of post treatment benthic samples by taxonomic order from the reference area of the autumn experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
(numbers per square meter)
AUTUMN EXPERIMENT
POST TREATMENT SAMPLES - REFERENCE AREA

TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10
EPHEMEROPTERA	1113	191	1208	1431	414	382	190	827	381	127
PLECOPTERA	1876	1272	826	731	254	572	0	477	2543	1304
DIPTERA	39306	25251	47445	216750	80836	26428	22516	69899	74635	127709
TRICHOPTERA	732	287	255	3880	605	64	128	477	0	160
COLEOPTERA	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	2957	4484	5056	5724	6010	2894	2227	7027	14151	8777

TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE 1-15	S.D. 1-15
EPHEMEROPTERA	254	127	32	4134	0	721	1012
PLECOPTERA	1081	2735	2131	95	0	1060	875
DIPTERA	52407	119792	124224	96164	22069	76365	52102
TRICHOPTERA	637	64	96	2039	414	660	995
COLEOPTERA	0	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0	0	0
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	7396	10653	8681	14373	5343	7047	3618

Table 18. Summary of post treatment benthic samples by taxonomic order from the treatment area of the autumn experiment.

SUMMARY OF BENTHIC ORGANISMS BY TAXONOMIC ORDER
(numbers per square meter)
AUTUMN EXPERIMENT
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10
EPHEMEROPTERA	573	318	127	10049	0	0	0	159	64	1113
PLECOPTERA	509	636	636	16059	0	0	0	32	0	1018
DIPTERA	30146	17171	40420	191215	62519	152194	262889	276088	154357	247595
TRICHOPTERA	191	0	540	0	64	64	32	573	2130	32
COLEOPTERA	0	0	0	0	0	0	0	0	32	0
LEPIDOPTERA	0	0	0	0	0	0	0	32	0	0
HOMOPTERA	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	8014	1399	5277	21655	5279	124369	33368	20448	8332	23945

TAXA	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15	MEAN CORE	S.D. 1-15
EPHEMEROPTERA	0	0	0	32	0	829	2482
PLECOPTERA	0	2035	2131	0	0	1537	3943
DIPTERA	63865	84048	27350	155980	35649	120499	88480
TRICHOPTERA	0	2099	0	254	159	409	692
COLEOPTERA	0	0	0	0	0	2	8
LEPIDOPTERA	0	0	0	0	0	2	8
HOMOPTERA	0	0	0	0	0	0	0
MISCELLANEOUS	11935	41149	16631	5405	8586	22785	29548

Table 19. Detailed results of pretreatment benthic samples from the reference area of the spring experiment.

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonuridae																
Amelitus	N	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	32	32	0	0	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae																
Paraleptophlebia	N	0	0	0	32	32	0	0	0	0	0	0	0	0	0	509
PLECOPTERA																
Leuctridae																
Leuctra	N	636	509	1685	1272	890	1113	1081	572	1844	1685	1049	9763	64	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	191	127	0	64	64	286	318	0	223	286	0	1526	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	64	0	0	0	64	32	223	0	32	95	0	32	0	0	0
Capnidae																
Allocapnia	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	32	0	0	0	32	0	0	0	0	0	0
"	L	0	0	32	0	32	32	95	127	191	0	0	0	0	0	0
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	64	0	32	0	64	95	95	159	127	159	32	0	0	0	509
Thienemanniella	L	0	0	0	0	64	64	32	32	0	95	0	509	32	0	0
Macropelopiini																
Procladius	L	32	0	0	0	64	0	32	32	32	95	0	0	0	0	0
Chironomini	P	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	32	32	32	32	159	223	223	127	64	318	0	0	32	1081	32
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	32	32	32	223	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	1018	0	0	0
"	L	254	254	477	572	986	795	986	318	350	763	2035	2067	95	1081	509
Corynoneurini	P	0	0	95	32	32	95	0	32	0	95	32	0	0	0	0
"	L	159	64	0	0	0	32	0	0	64	159	0	0	0	0	0
Thienemanniella	L	159	127	541	1272	350	350	1049	286	254	127	0	6614	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	0	32	32	64	0	0	32	0	64	32	0	0	32	0	32

Table 19 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	0	0	32	0	32	0	0	0	0	32	0	0	0	0	0
"	L	95	32	32	32	32	32	95	127	127	64	0	0	0	0	509
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	0	159	413	413	254	95	445	318	350	509	2035	509	0	0	0
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramatriocnemus	L	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
Psectrocladius	L	0	0	32	32	0	32	95	64	32	64	0	509	32	32	0
Pseudosmittia	L	0	0	0	0	0	32	0	0	0	0	2194	541	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	0	286	0	0	127	0	1876	0	64	286	0	509	0	1018	0
"	P	191	0	95	0	95	127	191	95	64	191	1018	0	1463	0	223
"	A	0	0	0	0	0	0	95	0	0	0	0	0	0	0	0
Prosimulium	L	0	0	0	0	95	32	318	0	0	32	0	0	32	0	0
"	P	32	0	0	0	32	0	32	0	0	32	0	32	1113	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0
Ectemnia	L	0	0	0	0	0	0	159	0	0	0	0	32	0	0	0
"	P	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	0	0	0	0	0	0	0	32	0	0	0	32	32	0	0
Ceratopogonidae																
Culicoides	L	191	127	350	95	95	32	64	32	32	159	0	509	32	0	2131
Empididae	L	0	0	0	0	0	0	0	0	0	32	0	0	0	64	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0	0	0	64	0	0	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	32	32	0	64	0	159	0	32	64	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	0	32	32	0	0	64	0	0	0	0	0	509	0	0	0
"	P	0	0	0	0	0	0	0	32	0	32	0	0	0	0	0
Polycentropidae																
Polycentropus	L	0	0	32	0	0	0	64	0	0	0	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	0	0	0	32	0	32	32	0	0	0	0	0	0	0	0

Table 19 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
Limnophilidae																
Neophylax	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae																
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	32	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Tricladida		0	0	0	0	0	0	95	0	0	0	0	0	0	0	0
Nematoda		1043	445	1049	64	954	1526	731	2067	1367	2448	8204	3561	7409	11134	32
Oligochaeta		636	668	2735	1208	1431	1590	922	1145	1018	731	32	4611	32	1240	3116
Harpacticoida		541	191	1717	350	477	668	318	413	1463	318	10176	2576	3085	0	3562
Ostracoda		0	0	0	0	127	0	0	0	32	0	0	0	0	0	0
Araneoidae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acarina		32	32	64	32	32	0	0	95	32	95	1018	1018	32	0	0
Collembola		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tardigrada		0	0	0	0	0	0	0	0	0	0	0	509	0	0	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plathodon		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	0	64	32	0	0	0	0	0	32	32	0	0	0	509

Table 20. Detailed results of pretreatment benthic samples from the treatment area of the spring experiment.

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRE-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonuridae																
Amelitus	N	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae																
Paraleptophlebia	N	0	0	0	0	0	0	32	0	64	0	0	0	0	0	0
PLECOPTERA																
Leuctridae																
Leuctra	N	636	318	127	191	3121	191	1146	64	286	1464	0	0	1018	1018	254
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	509	0	95	32	64	0	95	0	572	95	1018	1018	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	32	0	0	0	0	0	0	0	0	0	1018	0	0	0	0
Capniidae																
Allocapnia	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	64	0	0	0	0	0	64	0	0	0	0	0	0	0	0
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	0	0	191	32	32	0	0	0	0	0	0	0	0	0	32
Thienemanniella	L	0	64	0	32	32	0	0	0	0	64	0	0	0	0	0
Macropelopiini																
Procladius	L	32	0	0	0	32	0	127	0	0	0	0	0	0	0	254
Chironomini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	159	95	254	32	159	0	191	0	32	64	0	1018	0	2035	0
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	64	0	0	0	0	95	0	0	0	0	0	0	0	0
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	223	64	477	0	286	32	413	0	0	0	0	0	1049	2067	286
Corynoneurini	P	64	0	223	32	0	0	32	191	0	0	0	0	0	0	0
"	L	191	95	127	127	572	127	1081	0	0	0	0	0	0	0	0
Thienemanniella	L	286	0	0	0	0	0	0	0	191	700	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	0	0	32	32	95	32	191	0	0	0	0	1018	0	0	0

Table 20 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRE-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	64	0	0	0	0	0	32	0	0	0	0	32	0	0	254
"	L	254	95	191	159	509	32	382	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
Cricotopus	L	382	95	413	254	223	127	541	127	509	509	0	0	0	32	382
Eukiefferiella	L	0	95	0	64	318	64	286	95	413	32	0	0	0	32	0
"	P	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
Paramotriocnemus	L	0	0	0	0	0	0	0	0	0	0	0	0	32	0	32
Psectrocladius	L	159	0	0	0	0	0	32	0	0	0	0	0	0	0	286
Pseudosmittia	L	0	0	0	0	0	0	32	0	64	0	0	1081	1049	32	0
Rheocricotopus	L	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	159	32	32	254	0	0	32	127	127	0	0	0	0	0	1844
"	P	890	254	159	95	286	95	223	95	95	95	32	64	0	0	318
"	A	95	0	0	32	127	0	32	0	0	0	0	0	0	0	0
Prosimulium	L	32	0	0	95	32	0	286	0	0	0	0	0	0	32	32
"	P	127	0	0	32	64	0	318	0	191	0	0	32	0	95	0
"	A	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	32	0	64	0	0	0	0	0	32
"	P	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	32	0	0	64	0	0	0	95	0	0	0	0	0	0	795
Ceratopogonidae																
Culicoides	L	64	64	64	0	0	64	64	0	413	191	0	0	0	0	254
Empididae	L	0	32	32	0	0	32	32	32	0	0	0	32	0	0	0
"	A	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	32	0	0	0	0	0	0	32	0	32	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0	0	0	64	0	0	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	32	32	0	0	0	0	64	0	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	64	0	0	0	32	0	32	0	0	0	0	0	0	0	0
"	P	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 20 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRE-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	64	0	0	0	159	0	64	32	159	0	0	0	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae																
Neophylax	L	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae																
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Tricladida		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		1145	1622	1336	1813	1813	1622	413	2162	2321	5342	25472	10240	21465	11225	15709
Oligochaeta		445	445	509	541	32	191	286	64	254	827	1018	0	1049	0	350
Harpacticoida		286	1081	509	731	3593	541	827	0	541	1526	1018	1018	5088	3053	509
Ostracoda		32	159	32	127	286	350	318	0	0	0	0	0	0	0	0
Arrenoidae		0	0	0	0	32	0	0	0	0	32	0	0	0	0	0
Acarina		32	32	32	32	541	318	32	32	0	64	0	0	1018	0	254
Collembola		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tartigrada		0	64	0	32	0	32	32	0	0	0	0	0	0	0	254
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hirudinea		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 21. Detailed results of post treatment benthic samples from the reference area of the spring experiment.

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonuridae																
Amelitus	N	0	0	0	32	32	32	0	32	0	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	32	0	0	0	0	0	0	0	0	0	0	0	0	508
Leptophlebiidae																
Paraleptophlebia	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLECOPTERA																
Leuctridae																
Leuctra	N	2385	1972	700	1208	1749	445	3053	1399	1018	572	1113	2194	4897	509	3212
"	A	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0
Nemouridae																
Nemoura	N	0	0	0	32	0	32	0	0	32	0	32	254	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	95	0	0	32	32	0	32	0	32	509	0	32	64
Capniidae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allocapnia	N	0	32	0	0	0	0	0	32	0	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	64	0	0	0	32	0	32	32	0	0	0	0	0	1526
"	L	223	127	95	127	254	191	0	64	0	0	541	0	0	0	0
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	32	159	64	0	0	0	159	159	0	0	0	127	0	0	1113
Thienemanniella	L	0	95	32	0	0	0	0	0	0	0	0	0	0	0	0
Macropelopiini																
Procladius	L	64	127	32	32	0	254	64	64	64	0	32	382	668	0	32
Chironomini	P	0	0	0	0	0	0	0	0	0	0	0	127	0	0	1049
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	32	254	32	0	0	64	0	32	32	0	0	382	572	1049	2035
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	64	191	64	95	95	95	318	191	159	95	0	0	0	0	0
"	L	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	350	795	159	191	159	318	286	254	191	95	1558	254	827	3148	3625
Corynoneurini	P	95	64	32	0	32	0	32	0	0	32	0	0	0	0	0
"	L	191	32	0	0	191	254	32	0	0	32	0	0	0	0	0
Thienemanniella	L	223	191	159	191	541	223	159	350	95	223	0	0	1018	0	1018
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	32	0	0	0	0	0	0	0	0	0	509	763	0	509	0

Table 21 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	127	32	0	32	32	64	32	0	95	0	0	0	32	541	0
"	L	159	127	127	32	32	223	32	32	32	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	604	636	254	318	604	1304	223	350	254	64	1558	0	32	2067	2067
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0	0	254	0	32	541
"	P	0	0	0	0	0	0	0	0	0	0	0	254	0	0	0
Parametriocnemus	L	382	0	254	64	159	191	127	32	127	667	3593	2417	1526	0	3053
Psectrocladius	L	95	445	64	0	0	95	0	0	0	32	2067	0	0	0	1018
Pseudosmittia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	509	509
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simulidae																
Simulium	L	1336	32	159	32	445	64	318	0	1526	3021	0	127	254	0	0
"	P	95	32	0	0	0	64	32	0	0	0	0	32	32	0	0
"	A	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	1145	0	286	32	636	32	318	64	2894	9731	0	668	254	0	0
"	P	0	0	0	0	0	32	0	0	0	0	0	159	0	0	0
"	A	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	64	0	0	0	32	0	0	0	0	127	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	32	0	0	0	0	0	0	0	0	0	509	0	0	0	0
Ceratopogonidae																
Culicoides	L	32	318	64	159	191	95	127	64	0	95	0	541	254	0	541
Empididae	L	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	32	32	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	0	32	32	32	64	32	32	95	0	32	0	32	0	0	0
"	L	64	0	64	0	0	0	0	0	127	0	0	64	0	0	0
Psychomyiidae																
Psychomyia	L	0	32	0	32	0	0	0	0	0	32	0	0	64	32	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	0	32	0	0	0	32	32	64	0	0	32	0	0	0	0

Table 21 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	32	32	0	0	0	0	0	0	0	0	0	0	0	0
Brachycentridae																
Brachycentrus	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	32	0	0	0	0	0	0	0	0	127	0	541	541
Limnephilidae																
Neophylax	L	64	32	0	0	32	64	0	32	0	0	0	0	0	0	0
Limnephilus	L	32	32	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae																
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	32	0	0	0	0	0	32	0	0	0	127	0	0	32
Chrysomelidae																
Donacia	L	0	0	0	0	0	32	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Tricladida		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		827	1717	1018	223	3021	1393	64	795	64	636	36761	15391	9953	18057	19430
Oligochaeta		859	2798	445	636	636	1654	413	1049	0	636	6169	3403	10303	541	5088
Harpacticoida		127	350	413	127	95	32	64	159	127	64	4070	10043	17505	9130	23437
Ostracoda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydracarina		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acarina		32	0	32	32	32	64	0	0	0	0	1018	509	509	2544	4070
Collembola		0	0	0	0	0	0	0	32	0	0	0	0	0	509	541
Tardigrada		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	64	0	0	0	0	0	0	0	0	0	382	254	0	0
Hirudinea		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 22. Detailed results of post treatment benthic samples from the treatment area of the spring experiment.

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonuridae																
Amelitus	N	0	0	0	32	32	32	0	32	0	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	32	0	0	0	0	0	0	0	0	0	0	0	0	508
Leptophlebiidae																
Paraleptophlebia	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLECOPTERA																
Leuctridae																
Leuctra	N	2385	1972	700	1208	1749	445	3053	1399	1018	572	1113	2194	4897	509	3212
"	A	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0
Nemouridae																
Nemoura	N	0	0	0	32	0	32	0	0	32	0	32	254	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	95	0	0	32	32	0	32	0	32	509	0	32	64
Capnidae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Allocapnia	N	0	32	0	0	0	0	0	32	0	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	64	0	0	0	32	0	32	32	0	0	0	0	0	1526
"	L	223	127	95	127	254	191	0	64	0	0	541	0	0	0	0
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	32	159	64	0	0	0	159	159	0	0	0	127	0	0	1113
Thienemanniella	L	0	95	32	0	0	0	0	0	0	0	0	0	0	0	0
Macropelopiini																
Procladius	L	64	127	32	32	0	254	64	64	64	0	32	382	668	0	32
Chironomini	P	0	0	0	0	0	0	0	0	0	0	0	127	0	0	1049
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	32	254	32	0	0	64	0	32	32	0	0	382	572	1018	2035
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	64	191	64	95	95	95	318	191	159	95	0	0	0	0	0
"	L	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	350	795	159	191	159	318	286	254	191	95	1558	254	827	3148	3562
Corynoneurini	P	95	64	32	0	32	0	32	0	0	32	0	0	0	0	0
"	L	191	32	0	0	191	254	32	0	0	32	0	0	0	0	0
Thienemanniella	L	223	191	159	191	541	223	159	350	95	223	0	0	1018	0	1018
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	32	0	0	0	0	0	0	0	0	0	509	763	0	509	0

Table 22 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	64	0	32	0	0	0	0	32	0	0	0	0	1018	127	0
"	L	95	0	0	0	0	0	0	0	0	0	2035	0	0	6106	0
"	A	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	191	191	191	95	159	159	159	127	95	95	32	0	64	3085	0
Eukiefferiella	L	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	32	0	0	0	64	0	0	0	0	0	2035	0	1081	4070	0
Psectrocladius	L	32	127	32	0	0	32	0	0	0	0	64	0	0	3180	0
Pseudosmittia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	0	32	0	0	127	32	0	0	32	0	0	0	0	0	0
"	P	0	95	32	32	32	32	32	127	541	95	64	0	32	32	32
"	A	32	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Prosimulium	L	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0
"	P	64	0	0	0	32	32	0	0	0	0	64	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	32	64	32	0	0	0	0	0	32	32	0	0	0	1081	0
Ceratopogonidae																
Culicoides	L	32	0	95	64	64	127	413	95	64	32	0	0	0	32	0
Empididae	L	0	0	0	0	32	32	0	0	0	32	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	0	0	0	64	32	0	0	0	0	0	32	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	32	0	32	0	32	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	0	0	0	32	32	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	0	32	0	0	32	32	0	0	64	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	0	0	32	0	0	0	0	0	0	32	32	0	0	0	0

Table 22 cont'd

SPRING BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	FAST (RIFFLE AREA) CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	SLOW (POOL AREA) CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	0	0	0	0	32	0	64	32	32	1018	0	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
Limnephilidae																
Neophylax	L	0	32	95	0	0	32	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	32	0	0	0	0	0	0	0	0	0	0	0	32	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Tricladida		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		1177	1367	1431	1049	827	986	668	350	700	382	18603	16377	13420	26839	25472
Oligochaeta		986	223	191	795	795	700	1399	382	318	413	1049	10176	7378	2226	1018
Harpacticoida		413	32	64	286	64	95	318	95	0	64	2035	12275	11269	2035	1018
Ostracoda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arrenuridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acarina		0	0	0	0	0	0	0	0	0	32	2035	0	0	32	0
Collembola		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidoptera		95	223	32	32	0	0	0	0	32	32	7155	0	0	2035	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Elmidae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	0	0	0	127	0	64	32	0	0	0	0	0	0	0
Hirudinea		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 23 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	1145	0	0	2798	1781	5083	0	14374	6360	12211	8204	254	1844	2039	3307
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	604	1113	223	127	2099	7441	0	1113	1781	4229	2608	32	32	382	1781
Eukiefferiella	L	509	223	95	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	L	64	0	32	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	509	0	0	0	0	0	0	0	254	0	0	254	0	0	0
Ceratopogonidae																
Culicoides	L	1431	350	445	254	1559	4070	2099	5152	2290	0	0	0	0	0	1272
Empididae	L	0	32	32	254	0	0	0	0	0	0	0	0	0	0	1018
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	64	0	0	0	0	32	0	0	0	0	32	286	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	32	32	0	0	0	0	0	0	0	509	0	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	A	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	254
Hydropsychidae																
Diplectrona	L	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 23. Detailed results of pretreatment benthic samples from the reference area of the autumn experiment.

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonuridae																
Amelitus	N	0	0	0	0	0	0	0	0	0	0	0	0	0	954	0
Ephemerellidae																
Ephemerella	N	95	286	0	0	159	0	0	0	0	0	0	0	64	0	763
Leptophlebiidae																
Paraleptophlebia	N	32	32	32	0	2067	0	0	0	0	0	0	0	0	0	254
PLECOPTERA																
Leuctridae																
Leuctra	N	0	0	0	763	0	0	0	0	254	0	0	0	2289	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	191	32	0	0	0	0	0	0	509	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capnidae																
Allocapnia	N	0	0	0	0	0	0	0	0	509	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	2162	859	1177	2035	64	3085	1081	4102	3562	4102	2576	32	5915	445	1781
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	0	0	0	1272	2131	32	0	2099	509	0	0	286	32	572	0
Thienemanniella	L	0	0	0	509	32	0	0	0	0	0	0	0	64	0	0
Macropelopiini																
Procladius	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomini	P	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0
"	L	9190	2321	4166	11448	8204	14278	4102	18390	16202	16345	19366	509	2035	7632	5851
Polypedilum	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	L	0	0	0	0	64	0	32	0	0	0	0	0	32	0	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	32245	10844	25853	25634	13307	35711	6201	39845	38414	36729	34249	541	6169	12752	14246
Tanytarsus	L	0	0	0	0	0	0	0	0	254	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	636	254	0	0	0	1018	0	3053	1526	4070	1526	0	0	1526	509
Thienemanniella	L	32	0	0	509	0	0	0	0	254	0	0	0	0	0	509
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	0	0	0	254	95	0	0	0	254	0	0	0	0	0	0

Table 23 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilidae																
Neophylax	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxyethira	L	0	0	0	0	32	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	64	0	95	32	0	0	0	32	0	0	254
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Isopoda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		0	0	95	1272	2512	1018	1717	4166	1781	8122	509	0	6132	541	1018
Oligochaeta		1781	795	636	3053	32	2035	2067	9190	4529	64	2544	254	0	1081	2544
Harpacticoida		922	763	509	1018	4102	7187	4198	7197	9426	4134	1717	0	32	32	3053
Ostracoda		0	0	0	0	0	0	0	1018	0	0	0	0	0	0	0
Arneoidea		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acarina		95	0	0	0	0	1018	0	0	0	0	0	0	0	0	0
Collembola		95	0	0	254	0	0	0	0	0	0	0	0	0	0	0
Tardigrada		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		32	32	445	0	0	0	0	0	254	0	0	0	0	0	254

Table 24. Detailed results of pretreatment benthic samples from the treatment area of the autumn experiment.

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonouridae																
Amelitus	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	32	350	191	95	0	1336	1145	318	0	795	0	0	0	0
Leptophlebiidae																
Paraleptophlebia	N	0	64	827	318	445	0	445	159	32	127	0	0	0	32	0
PLECOPTERA																
Leuctridae																
Leuctra	N	32	254	1081	95	349	0	0	0	0	0	0	0	0	0	32
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	541	0	0	859	223	0	0	0	477	95	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capnidae																
Allocapnia	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	1240	1049	2903	2131	2130	1463	1558	668	859	1304	223	413	223	296	477
Larsia	L	0	32	0	0	32	95	96	0	0	0	0	0	0	0	0
Paramerina	L	700	795	636	1399	1113	64	286	509	64	986	572	96	318	795	2162
Thienemanniella	L	0	0	382	350	1177	0	254	382	0	0	0	32	0	0	636
Macropelopiini																
Procladius	L	32	32	286	0	541	0	64	32	0	0	0	64	0	0	0
Chironomini	P	0	32	0	0	0	0	95	0	0	0	64	0	0	64	95
"	L	18158	14787	11957	16631	20129	32722	18349	17305	14342	11257	11543	8236	2258	18826	6964
Polypedilum	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	64	668
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1399
"	L	97276	90358	15362	54038	30115	0	0	64904	53265	54092	70478	18826	4865	82203	32
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	94160	52661	0	0	0	0	0	0	0	0
Corynoneurini	P	32	32	0	0	0	32	32	0	0	32	32	0	0	0	0
"	L	477	254	382	413	254	127	1018	223	0	0	986	0	96	127	0
Thienemanniella	L	0	0	64	64	191	0	32	0	286	0	159	0	127	159	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	0	0	64	127	509	286	95	64	32	95	0	32	64	95	0

Table 24 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	0	0	0	0	0	0	0	0	32	0	0	0	0	0	64
"	L	1304	1781	2798	8431	4516	7028	7314	5851	5056	2067	1558	2544	1049	4802	1526
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	1749	731	1685	1558	7886	11798	2353	4675	4134	3339	3848	21433	1654	7473	12248
Eukiefferiella	L	0	0	254	0	859	0	0	0	0	0	191	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	0	0	0	0	0	0	64	32	0	0	0	0	0	0	0
Psectrocladius	L	318	0	34	0	541	0	0	32	0	64	254	64	0	0	0
Pseudosmittia	L	254	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	0	0	0	0	0	0	0	0	0	0	0	0	0	127	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ceratopogonidae																
Culicoides	L	1240	954	1336	1336	1336	1336	382	795	1685	2544	3434	5883	1304	8204	4166
Empididae	L	32	223	159	95	382	159	0	0	191	159	159	0	159	159	413
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	32	0	0	0	64	32	0	0	0	95	0	64	0	32	159
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	64	127	64	0	0	382	32	64	64	32	32	64	0	64	159
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	32	64	0	0	32	0	0	0	0	0	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	95	64	0	159	32	95	64	0	32	0	95	0	32	32	64
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	0	0	159	127	159	0	0	64	64	64	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	0	0	0	0	0	127	0	0	0	0	95	0	64	32	0

Table 24 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
PRETREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	32	64	0	0	32	0	0	0	0	0	0	0	32	32	32
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	32	0	0	64	0	0	0	0	0	0	64	0	0	32
Limnophilidae																
Neophylax	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	64	32	0	0	0	0	0	0	32	0	0	127
Hydroptilidae	L	0	0	413	0	0	0	32	795	0	0	0	0	0	0	0
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	32	0	0	0	0	0	0	32
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Isopoda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		731	572	318	1145	1367	191	206	1336	2099	2767	2353	2353	1717	1113	1590
Oligochaeta		6583	1463	1367	2936	2480	1590	2098	5438	2480	2030	2067	5279	668	3816	1972
Harpacticoida		1367	1558	286	604	445	1685	1240	2070	2834	127	1495	0	0	350	2767
Ostracoda		0	0	0	0	0	0	0	477	0	0	0	0	0	0	0
Chaoboridae		0	0	0	0	0	0	32	0	0	0	0	0	0	32	0
Acarina		0	0	286	0	159	32	64	0	64	0	96	0	0	32	0
Collembola		0	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Tardigrada		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plathodon		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		127	32	64	254	604	127	32	64	32	604	32	223	0	0	0
Hirudinea		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 25. Detailed results of post treatment benthic samples from the reference area of the autumn experiment.

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonouridae																
Ameletus	N	0	0	0	0	0	0	0	0	0	0	0	0	0	4102	0
Ephemerellidae																
Ephemerella	N	64	127	318	1336	64	64	95	0	286	127	254	95	0	32	0
Leptophlebiidae																
Paraleptophlebia	N	1049	64	890	95	350	318	95	827	95	0	0	32	32	0	0
PLECOPTERA																
Leuctridae																
Leuctra	N	286	763	572	0	0	254	0	318	1240	1304	795	1813	2131	95	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	0	382	254	731	254	318	0	159	1303	0	286	668	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capniidae																
Allocapnia	N	1590	127	0	0	0	0	0	0	0	0	0	254	0	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	I	2671	922	2830	3704	2003	541	731	5788	2767	8936	4070	5152	8204	25631	1781
Larsia	I	0	0	0	0	0	0	541	0	0	827	32	0	0	0	0
Paramerina	L	700	350	286	541	95	223	382	2354	1622	4611	127	1813	0	2258	32
Thienemanniella	L	0	64	32	32	0	64	0	318	604	0	95	795	0	223	0
Macropelopiini																
Procladius	L	95	0	0	0	64	0	0	0	286	0	0	859	0	0	0
Chironomini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	I	6042	2926	9190	33972	14287	3333	5342	1813	12243	22133	7632	17840	32563	24613	4325
Polypedilum	I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	26394	16154	28242	135296	45856	18317	13238	42580	41213	80645	33122	26829	61056	40828	12561
Tanytarsus	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneurini	P	0	32	0	32	0	32	0	0	0	32	32	0	0	0	0
"	L	0	0	0	604	0	0	0	1177	0	795	286	509	8141	0	0
Thienemanniella	L	0	32	64	0	0	0	32	0	0	0	0	572	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	32	0	0	0	0
Corynoneura	L	0	0	0	0	32	0	0	350	32	0	0	0	0	0	0

Table 25 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	0	32	32	0	0	0	0	64	0	0	0	0	0	0	0
"	L	700	1781	2003	22101	4325	1018	795	5947	2003	1526	1272	5851	8141	10271	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	1495	1240	1749	7855	8936	954	541	1685	8363	2767	2575	5120	6169	2162	3275
Eukiefferiella	L	0	0	477	477	206	0	0	0	1495	0	0	731	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	0	0	0	1781	0	0	0	0	0	0	32	0	0	0	0
Psectrocladius	L	32	64	0	700	286	32	0	0	0	0	32	127	0	0	0
Pseudosmittia	L	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	0	95	0	0	254	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eclemnia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	0	32	0	0	0	0	0	0	0	509	0	0	0	32	0
Ceratopogonidae																
Culicoides	L	1113	1336	1781	2608	3438	1526	286	7219	3800	3911	2417	2290	0	32	95
Empididae	L	0	0	159	382	350	223	32	604	32	254	604	1177	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	0	95	0	32	32	0	95	477	64	32	0	32	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	32	191	95	0	64	127	64	0	0	286	32	95	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	A	64	32	32	0	32	0	0	0	0	32	0	0	0	0	382
"	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psychomyiidae																
Psychomyia	L	0	159	191	0	64	32	32	127	0	64	0	0	64	2102	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	95	64	0	0	0	0	0	286	0	32	0	32	0	0	0
Hydropsychidae																
Diplectrona	L	64	0	0	0	0	32	0	0	0	0	32	0	32	32	0

Table 25 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - REFERENCE AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	32	0	0	0	0	32	32	0	32	32	32	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	0	223	0	0	32	32	0	0	0	0	0	0	0
Limnephilidae																
Neophylax	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	32	0	0	0	32	0	0	0	64	0	0	0	0
Hydroptilidae	L	509	0	0	3657	509	0	0	0	0	0	509	0	0	0	32
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Ircladids		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		159	322	0	0	286	0	32	1049	477	95	95	32	2134	2045	0
Oligochaeta		2639	2452	4611	859	4110	1136	668	4865	10921	5597	3816	6296	4070	8216	2067
Harpacticoida		95	509	286	4461	1591	1044	1495	1113	2067	2609	1302	4134	2045	4102	1340
Ostracoda		0	0	0	0	0	0	0	0	254	0	0	0	0	0	1116
Acarina		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenia		64	64	127	1114	0	131	0	0	0	286	32	0	0	0	0
Collembola		0	0	32	0	0	32	0	0	0	0	0	0	0	0	0
Isopoda		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gammaridae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0	0	0	32	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	32	0	0	64	286	0	0	382	191	64	191	382	0	0

Table 26. Detailed results of post treatment benthic samples from the treatment area of the autumn experiment.

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
EPHEMEROPTERA																
Siphlonouridae																
Amelitus	N	541	127	0	3880	0	0	0	159	32	0	0	0	0	0	0
Ephemerellidae																
Ephemerella	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae																
Paraleptophlebia	N	32	191	127	6169	0	0	0	0	32	1113	0	0	0	32	0
PLECOPTERA																
Leuctridae																
Leuctra	N	0	636	509	12275	0	0	0	32	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nemouridae																
Nemoura	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capnidae																
Allocapnia	N	509	0	127	3784	0	0	0	0	0	1018	0	2035	2131	0	0
DIPTERA																
Chironomidae																
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	731	191	795	4166	1018	2035	8132	6169	10208	2067	0	0	32	0	0
Larsia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paramerina	L	64	0	0	0	0	0	0	64	64	0	0	0	0	0	0
Thienemanniella	L	95	0	0	127	64	0	95	127	127	32	0	2067	0	318	0
Macropelopiini																
Procladius	L	0	0	0	0	0	0	0	0	0	0	0	0	0	254	0
Chironomini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	6614	5024	10717	52979	20447	48972	79532	75589	348?1	69419	18444	24422	6106	46015	6201
Polypedilum	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	L	0	0	0	0	0	0	0	0	0	0	0	0	223	0	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	13102	9317	22642	106021	33676	98803	95372	157251	81821	134705	30655	42803	12302	88817	20384
Tanytarsus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	64	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneurini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	2035	286	541	7085	1081	2258	2067	0	2038	2035	0	0	0	0	0
Thienemanniella	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 26 cont'd

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
DIPTERA cont'd																
Orthocladiini	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	4547	1304	3080	16441	3085	4102	22546	20447	14342	17363	6137	8173	0	6042	4261
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	L	2703	254	1304	8236	3116	2353	49894	16377	10589	15550	12338	2131	4134	5184	2290
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32
Paramotriocnemus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	L	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Pseudosmittia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae																
Simulium	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	0	0	0	0	0	0	32	0	0	0	0	0	0	32	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Athericidae																
Atherix	L	0	127	32	32	0	0	0	0	0	127	64	0	0	254	0
Ceratopogonidae																
Culicoides	L	64	541	509	64	0	2480	4157	32	64	6265	2131	4325	4244	8332	2417
Empididae	L	159	0	0	0	0	0	0	0	32	0	64	32	0	32	0
"	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomidae	L	32	127	0	0	32	64	127	32	127	0	0	95	159	286	64
"	A	0	0	0	64	0	127	95	0	64	32	32	0	95	318	0
Tipulidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tabanidae	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA																
Philopotamidae																
Dolophilodes	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
"	L	127	0	127	0	0	32	0	0	2035	0	0	2067	0	0	0
Psychomyiidae																
Psychomyia	L	32	0	254	0	0	32	0	159	0	32	0	32	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Polycentropidae																
Polycentropus	L	32	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Hydropsychidae																
Diplectrona	L	0	0	159	0	64	0	0	382	35	0	0	0	0	0	159

AUTUMN BENTHOS ABUNDANCE BY TAXA
(numbers per square meter)
POST-TREATMENT SAMPLES - TREATMENT AREA

TAXA	LIFE STAGE	CORE 1	CORE 2	CORE 3	CORE 4	CORE 5	CORE 6	CORE 7	CORE 8	CORE 9	CORE 10	CORE 11	CORE 12	CORE 13	CORE 14	CORE 15
TRICHOPTERA cont'd																
Glossomatidae																
Glossosoma	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brachycentridae																
Brachycentrus	L	0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
Lepidostomatidae																
Lepidostoma	L	0	0	0	0	0	0	0	0	0	0	0	0	0	254	0
Limnephilidae																
Neophylax	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroptilidae																
Oxyethira	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molannidae																
Molanna	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLEOPTERA																
Dytiscidae																
Dytiscus	L	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chrysomelidae																
Donacia	L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA																
Pyralidae																
Acentropus	L	0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
HOMOPTERA																
Aphididae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS																
Trichladida		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nematoda		3053	445	1685	4134	2033	100765	12243	10240	32	6106	4193	22610	6296	572	6455
Oligochaeta		2926	503	3084	3158	3148	15900	24240	10176	6137	12243	4103	10335	4198	2480	64
Harpacticoida		1526	286	127	9363	32	8.04	2353	0	2131	3052	64	6163	4070	318.7	32
Ostracoda		0	0	1.27	0	0	0	0	0	0	1526	0	0	0	0	0
Gnathobdellida		0	0	0	0	0	0	0	32	0	0	0	0	0	0	0
Glossiphoniidae		509	159	254	0	0	0	0	0	0	1018	2035	2035	2067	0	2035
Erpobdellida		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lecithoepitoca		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haemopidae		0	0	0	0	0	0	0	0	0	0	0	0	0	254	0
Planorbidae		0	0	0	0	0	0	32	0	0	0	0	0	0	0	0
Sphaeriidae																
Sphaerium		0	0	0	0	0	0	0	0	32	0	1526	0	0	32	0
Rhodobiidae		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 27. Summary of invertebrate drift density by taxonomic order from site B of the spring experiment.

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
Numbers per 100 cubic meters per day
SITE B SPRING 1980

	EXPERIMENT				REFERENCE pH 5.6						REFERENCE pH 5.6					
TAXONOMIC ORDER	MAY 10	MAY 11	MEAN MAY 10	S.D. 11	MAY 12	MAY 14	MAY 14	MAY 15	MEAN MAY 12	S.D. 15	MAY 16	MAY 17	MAY 18	MAY 19	MEAN MAY 16	S.D. 1
EPHEMEROPTERA	0	0.04	0.02	0.02	1.52	0.06	2.04	0.92	1.15	0.23	3.02	8.27	7.73	3.96	6.24	2.3
PLECOPTERA	10.1	16.8	13.5	1.8	49.4	22.9	18.5	30.8	31.9	12	67.9	152	251	1.94	154	12.
DIPTERA	147	168	157	10.4	436	297	182	148	281	64	394	2418	2323	846	1495	89
TRICHOPTERA	3.93	0.83	2.38	1.55	2.38	8.26	1.92	2.82	3.85	2.57	7.71	4.82	7.72	2.22	5.62	2.2
COLEOPTERA	0.63	1.3	0.97	0.33	2.24	2.1	1.86	2.1	2.08	0.14	2.61	3.7	11.6	3.21	5.28	3.6
HEMIPTERA	0	0	0	0	0.78	3.05	0	0	0.96	1.25	0	0	0	0	0	0
LEPIDOPTERA	0	0	0	0	0.73	0	0	0	0.18	0.32	0.06	0.13	0	0.11	0.08	0.0
HYMENOPTERA	0	0.04	0.02	0.02	0.05	5.14	0.18	0.05	1.36	2.19	2.26	2.04	4.91	0.11	2.33	1.7
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSOCOPTERA	0.63	0	0.32	0.32	0	1.02	0	1.64	0.67	0.70	0.93	4.07	5.9	2.88	3.45	1.8
ODONATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	13.5	29.9	21.7	8.20	61.3	47.8	9.4	28.7	36.8	19.6	37	59.4	88.8	22.0	51.8	25.2

Table 28. Summary of invertebrate drift density by taxonomic order from site B of the spring experiment.

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
(number per 100 cubic meters per day)
SITE B (SPRING 1982)

	PRETREATMENT				TREATMENT pH 4.8						TREATMENT pH 4.2					
TAXONOMIC ORDER	MAY 10	MAY 11	MEAN MAY 10 - 11	S.D. MAY 10 - 11	MAY 12	MAY 13	MAY 14	MAY 15	MEAN MAY 12 - 15	S.D. MAY 12 - 15	MAY 16	MAY 17	MAY 18	MAY 19	MEAN MAY 16 - 19	S.D. MAY 16 - 19
EPHEMEROPTERA	0.65	1.29	0.97	0.45	1.88	1.80	2.00	2.04	1.96	0.25	5.79	16.4	15.9	2.72	11.5	4.75
PLECOPTERA	25.2	21.3	23.8	2.45	29.8	53.5	21.3	54.3	40.1	16.5	61.0	125	2.27	115	13.7	60.0
DIPTERA	114	120	117	3.08	310	100	187	293	244	60.6	365	851	974	543	683	242
TRICHOPTERA	2.27	2.21	2.24	0.03	1.09	3.15	4.8	5.73	3.69	1.76	4.6	9.33	14.33	6.48	8.69	3.67
COLEOPTERA	0.69	0.28	0.49	0.21	2.65	1.71	1.55	3.83	2.45	0.93	2.5	6.19	3.12	0.31	3.03	2.10
HEMIPTERA	0.04	1.65	0.85	0.81	0.05	0.78	1.55	0.15	0.63	0.60	0.11	0.23	0	0	0	0
LEPIDOPTERA	0	0	0	0	0.05	0	0.05	0	0.03	0.03	1.05	0.08	0	0.08	0.30	0.43
HYMENOPTERA	0.65	0.16	0.41	0.25	0.94	1.61	3.85	1.31	1.93	1.14	3.09	1.59	0.45	0.31	1.36	1.12
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSOCOPTERA	0	0	0	0	0	0	0	0.97	0.24	0.42	0	0	0.27	2.16	0.61	0.90
ODONATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	7.75	13.2	10.5	2.72	33.0	24.3	17.1	21.7	24.0	5.79	32.5	25.3	74.9	18.8	37.9	21.9

Table 29. Summary of invertebrate drift density by taxonomic order from site C of the spring experiment.

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
(numbers per 100 cubic meters per day)
SITE C (SPRING 1982)

	-------PRETREATMENT----------				-------- TREATMENT pH 4.8 ----------						---------- TREATMENT pH 4.2----------					
TAXONOMIC ORDER	MAY 10	MAY 11	MEAN MAY 10 - 11	S.D.	MAY 12	MAY 13	MAY 14	MAY 15	MEAN MAY 12 - 15	S.D.	MAY 16	MAY 17	MAY 18	MAY 19	MEAN MAY 16 - 19	S.D.
EPHEMEROPTERA	7.72	1.29	4.51	3.22	2.79	1.36	0.15	3.47	1.94	1.28	5.52	5.72	0.09	1.45	3.20	2.47
PLECOPTERA	115	38.1	76.7	38.6	47.0	28.0	65.2	65.7	51.5	15.5	119	225	427	293	268	112
DIPTERA	543	163	353	190	302	152	205	168	207	58.2	386	535	454	424	450	54.9
TRICHOPTERA	6.48	4.04	5.26	1.22	4.26	1.85	5.87	4.85	4.21	1.48	4.92	15.3	21.6	3.98	12.9	6.18
COLEOPTERA	0.31	2.26	1.29	0.98	5.07	0.49	2.65	1.67	2.47	1.68	3.95	2.56	1.51	3.84	2.97	1.00
HEMIPTERA	0	0	0	0	0.93	0	0	0.1	0.26	0.39	0	0.75	0.09	0.16	0.25	0.29
LEPIDOPTERA	0	0	0	0	0.06	0.04	0.05	0.1	0.06	0.02	0.99	0.52	0.18	0	0.42	0.38
HYMENOPTERA	0.31	0.65	0.48	0.17	1.04	0.66	0	0.95	0.66	0.41	0.29	0.92	0.09	0.08	0.35	0.34
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSOCOPTERA	2.16	0	1.08	1.08	2.79	0	0	1.14	0.98	1.14	0	1.28	0.71	3.68	1.42	1.38
ODONATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	14.0	10.6	14.8	4.21	21.5	14.0	10.2	27.0	18.4	6.80	42.3	55.6	35.9	43.0	45.5	7.15

Table 30. Summary of invertebrate drift density by taxonomic order from site A of the autumn experiment.

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
(numbers per 100 cubic meters per day)
SITE A (AUTUMN 1982)

	-------PRETREATMENT----------				-------- REFERENCE pH 6.4 ----------						---------- REFERENCE pH 6.4----------					
TAXONOMIC ORDER	SEPT 14	SEPT 15	MEAN SEPT 14 - 15	S.D.	SEPT 16	SEPT 17	SEPT 18	SEPT 19	MEAN SEPT 16 - 19	S.D.	SEPT 20	SEPT 21	SEPT 22	SEPT 23	MEAN SEPT 20 - 23	S.D.
EPHEMEROPTERA	3.18	0	1.59	1.59	14.5	1.88	6.15	5.3	6.95	4.63	9.01	5.01	13.2	0.48	6.93	4.73
PLECOPTERA	0.87	0	0.44	0.44	0.35	0	9.67	5.14	3.79	3.96	2.14	4.15	0	1.96	2.06	1.47
DIPTERA	530	564	547	17.1	455	350	205	264	319	94.2	198	215	309	127	212	64.9
TRICHOPTERA	14.7	8.49	11.6	3.13	6.36	11.2	10.3	0.4	7.06	4.26	6.18	2.43	11.7	0.66	5.25	4.23
COLEOPTERA	0	0.65	0.33	0.33	0.35	0.31	0.29	0	0.24	0.14	0.24	0.24	0.24	0.24	0.24	0
HEMIPTERA	0	0.65	0.33	0.33	0.35	0.31	0	0.16	0.21	0.14	0.24	2.44	0	0.18	0.72	1.00
LEPIDOPTERA	0.58	1.96	1.27	0.69	0.35	0	0.29	0.08	0.18	0.14	0	0	0	0.12	0.03	0.05
HYMENOPTERA	0.58	17.0	8.81	8.23	0	0.31	0	0	0.09	0.13	0	2.44	3.75	0	1.55	1.62
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSOCOPTERA	0	0	0	0	0	0.63	0.29	5.22	1.54	2.14	0	0	0	0.12	0.03	0.05
ODONATA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	60.4	128	94.0	33.6	60.1	26.9	42.5	10.2	34.9	18.5	30.8	4.63	19.1	3.57	16.0	10.0

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
(numbers per 100 cubic meters per day)
SITE C (AUTUMN 1982)

	PRETREATMENT				TREATMENT pH 4.8						TREATMENT pH 4.2					
TAXONOMIC ORDER	SEPT 14	SEPT 15	MEAN SEPT 14 - 15	S.D.	SEPT 16	SEPT 17	SEPT 18	SEPT 19	MEAN SEPT 16 - 19	S.D.	SEPT 20	SEPT 21	SEPT 22	SEPT 23	MEAN SEPT 20 - 23	S.D.
EPHEMEROPTERA	0	1.68	0.84	0.84	1.53	0.51	3.00	11.3	4.10	4.28	13.8	21.0	5.27	3.25	10.8	7.08
PLECOPTERA	0	0	0	0	0	0.51	3.00	2.44	1.43	1.26	4.54	0.54	0	0	1.27	1.90
DIPTERA	564	361	463	101	385	486	232	846	487	226	566	911	388	273	534	241
TRICHOPTERA	8.49	23.0	15.8	7.27	32.8	47.5	28.4	3.51	28.1	15.8	45.8	72.0	26.9	1.90	36.6	25.7
COLEOPTERA	0	0	0	0	0.51	2.03	0.75	0.43	0.93	0.65	4.54	9.04	0	0.1	3.42	3.73
HEMIPTERA	0.65	0.56	0.61	0.04	0.51	1.52	7.49	0.5	2.51	2.91	14.9	1.33	0.13	0.05	4.09	6.24
LEPIDOPTERA	1.96	1.12	1.54	0.42	0	2.02	0	0.36	0.60	0.84	0.14	0.53	0.53	0	0.30	0.24
HYMENOPTERA	17.0	3.37	10.2	6.83	2.55	2.53	2.25	1.44	2.19	0.45	0.41	9.3	4.47	0.1	3.57	3.73
HOMOPTERA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PSOCOPTERA	0	0.56	0.28	0.28	0	26.3	2.25	14.1	10.7	10.5	4.68	26.3	8.55	3.2	10.7	9.23
ODONATA	0	0	0	0	0	0	0	0.07	0	0	0	0	0	0	0	0
MISCELLANEOUS	128	82.1	105	22.8	66.6	102	58.4	125	88.1	27.0	66.6	77.0	80.0	24.6	62.1	22.2

Table 31. Summary of invertebrate drift density by taxonomic order from site B of the autumn experiment.

SUMMARY OF INVERTEBRATE DRIFT DENSITY BY TAXONOMIC ORDER
(numbers per 100 cubic meters per day)
SITE B (AUTUMN 1982)

	PRETREATMENT				TREATMENT pH 4.8						TREATMENT pH 4.2					
TAXONOMIC ORDER	SEPT 14	SEPT 15	MEAN SEPT 14 - 15	S.D.	SEPT 16	SEPT 17	SEPT 18	SEPT 19	MEAN SEPT 16 - 19	S.D.	SEPT 20	SEPT 21	SEPT 22	SEPT 23	MEAN SEPT 20 - 23	S.D.
EPHEMEROPTERA	13.1	0.56	6.83	6.27	1.53	2.03	2.25	15.1	5.23	5.71	17.9	11.2	9.87	1.75	10.2	5.74
PLECOPTERA	0	0	0	0	0	0.51	17.9	10.3	7.18	7.43	2.34	17.0	8.42	1.65	7.35	6.16
DIPTERA	552	547	549	2.84	557	834	589	561	635	115	320	783	521	185	452	225
TRICHOPTERA	13.1	3.37	8.24	4.87	9.2	96.5	96.6	16.4	54.7	42.0	31.7	120	56.4	24.2	58.1	37.7
COLEOPTERA	0	8.99	4.50	4.50	8.18	0	0.75	0.36	2.32	3.39	2.62	0.27	0.26	0	0.79	1.06
HEMIPTERA	0.65	0.56	0.61	0.04	0.51	1.01	0.75	0.21	0.62	0.30	2.89	17.8	4.87	0.1	6.42	6.79
LEPIDOPTERA	1.96	1.69	1.83	0.13	1.02	0.51	0.75	0.5	0.70	0.21	0.14	0.8	0.13	0.05	0.28	0.30
HYMENOPTERA	1.96	3.37	2.67	0.71	1.02	2.02	0	4.67	1.93	1.74	0.56	0	8.42	0	2.25	3.57
HOMOPTERA	0	1.12	0.56	0.56	0	0	0	11.5	2.88	4.98	0	8.5	0	3.25	2.94	3.47
PSOCOPTERA	10.5	1.12	5.81	4.69	1.02	10.6	0	9.33	5.24	4.76	2.2	9.04	0	0	2.81	3.71
ODONATA	0	0.56	0.28	0.28	0	0	0	0	0	0	0	0	0	0	0	0
MISCELLANEOUS	106	71.4	88.6	17.3	70.6	73.3	96.6	92.1	83.2	11.4	37.7	85.3	42.5	8.24	43.4	27.5

Table 33. Detailed results of drift samples from site A of the spring experiment.

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- REFERENCE pH 5.8 ---- MAY 12	MAY 13	MAY 14	MAY 15	---- REFERENCE pH 5.8 ---- MAY 16	MAY 17	MAY 18	MAY 19
EPHEMEROPTERA											
Siphlonuridae											
Amelitus	N	0	0	1.47	0	1.92	0.92	2.14	8.14	7.73	8.87
"	A	0	0	0	0	0	0.05	0	0	0	0
Ephemerellidae											
Ephemerella	N	0	0.04	0.05	0.06	0.12	0	0.93	0.13	0	0
Heptageniidae											
Stenonema	N	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae											
Paraleptophlebia	N	0	0	0	0	0	0	0	0	0	0
PLECOPTERA											
Leuctridae											
Leuctra	N	4.51	7.6	18.6	8.76	5.75	9.96	10.2	38.8	61.9	39.5
"	A	0	0	0	0	0	0.52	0.12	0.76	12.2	0.89
Nemouridae											
Nemoura	N	3.8	2.69	13.7	7.43	5.05	5.24	10.4	6.74	12.8	8.43
"	A	0	0.04	0	0	2.03	11.7	5.44	7.25	18.1	8.43
Amphinemoura	N	0	2.65	12.7	5.65	1.92	3.9	13	15.9	4.49	9.76
Capniidae											
Allocapnia	N	1.94	3.84	4.4	1.02	3.71	5.44	28.7	103	142	57.2
"	A	1.47	4.08	6.55	1.4	0	0	0.12	0.51	0	0
DIPTERA											
Chironomidae											
Pentaneurini	P	0	0	1.47	3.05	1.92	8.06	15	21.9	24.2	2.27
"	A	0	0.63	6.73	10.3	3.77	6.01	7.18	6.87	2.81	0.89
Larsia	L	0.08	0.04	0.73	1.02	0	0.1	7.18	6.87	6.74	0.89
Paramerina	L	14.1	20.3	19.5	46.2	14.1	12.3	17.9	16.9	40.3	19.1
Thienemanniella	L	1.27	1.31	2.93	1.02	0.93	0.82	0.98	0.13	0.56	1.27
Macropelopiini	P	0.63	0	0	2.03	0	0	0	0.25	0	0
"	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0.82	0	0.13	0	0
Procladius	L	2.53	1.31	2.2	1.14	0.17	3.34	2.58	3.05	8.71	2.54
Chironomini	P	0.63	0.63	0.73	1.02	0	11.5	16.3	31.9	23.6	16.4
"	A	0	0	0	0	0	4.52	2.31	24.5	1.5	3.99
Polypedilum	L	3.36	11.2	19.4	9.4	4.2	2.1	5.09	5.07	12.8	2.27
Chironomus	L	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	0	0.63	2.2	8.16	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Tanytarsus	L	2.05	8.91	11	9.14	9.39	9.8	10	12.1	29.4	7.1

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- REFERENCE pH 5.8 ---- MAY 12	MAY 13	MAY 14	MAY 15	---- REFERENCE pH 5.8 ---- MAY 16	MAY 17	MAY 18	MAY 19
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	0.67	0.63	3.66	1.02	0.06	0	2.89	0	0	0
"	A	0.63	0	2.2	0	0	0	0.12	0	0	0
Thienemanniella	L	1.9	11.5	22.7	2.03	1.86	0.82	1.91	4.07	2.25	0
Corynoneura	L	0	0	0	0	0	0	0	0	0	0
Orthocladiini	P	12.8	10.2	28.6	46.7	25.1	23.9	50.8	96.5	79.6	50.1
"	A	11.4	12.2	36.1	25.5	20.8	38	37.2	133	105	63.4
Cricotopus	L	5.74	2.02	5.22	4.13	0.06	4.57	4.22	14.1	24.3	8.43
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0
"	P	31.9	21.5	44.7	33.5	50.2	120	19.2	1460	1460	372
"	A	7.6	9.5	13.2	13.2	11.2	42.8	139	441	343	64.3
Parametriocnemus	L	2.57	1.94	3.39	2.03	0.06	4.21	3.88	24.4	19.4	7.1
Psectrocladius	L	6.49	10.3	19.3	9.27	11.3	16.3	16.8	25.2	42.7	210
Pseudosmittia	L	4.47	1.35	5.91	4.06	0	2.21	2.03	6.36	6.18	2.22
Rheocricotopus	L	4.43	1.9	7.33	3.05	6.5	4.72	5.03	9.41	5.29	3.1
Simuliidae											
Simulium	L	14.6	19.7	42.5	22.3	9.4	16.4	19.3	58.6	49.9	2.22
"	P	1.94	1.39	1.47	4.06	0.17	0.46	0.23	0.25	1.12	0
"	A	0.67	0.21	2.24	1.02	5.57	3.85	1.24	4.58	10.7	1.33
Prosimulium	L	1.94	2.53	1.47	0	0.06	4.21	1.56	3.56	0.28	0
"	P	0	0.4	3.75	0.13	0.06	0	0.12	0	0	0
"	A	0	3.8	7.33	2.36	0.93	0	0.02	0	0.14	0
Ectemnia	L	5.78	0.04	5.17	12.1	2.79	7.34	2.26	4.07	0.14	0
"	P	0	1.9	2.29	1.14	0	0	0	0	0	0
"	A	0	7.68	0	9.27	0	0.82	0.06	0	0	0
Athericidae											
Atherix	L	1.35	0	0	1.02	0	0	0	0.13	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ceratopogonidae	L	0	0	0	0	0.93	0	0	0.64	0	0
"	A	0	0	0	0.64	0	0.05	0.52	0.38	0	0
Culicoides	L	0	0	0	1.02	0	0.82	0.17	1.02	0.14	0
Empididae	L	0	0	0.82	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0.11
Stratiomyidae	L	0	1.31	0	0.06	0	0	0	0	0	0
"	A	0	0.4	0.05	0	0	0	0	0	0	0
Syrphidae	A	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0.06	0.25	0	0
"	A	0	0	0	0	0	0.26	0.23	0	0	0
Heleomyzidae	A	0	0	0	1.02	0	0	0	0	0	0
Sciomyzidae	A	0	0	0	1.02	0	0	0	0	0	0
Muscidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0.51	0	0	0	0

Table 33 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- REFERENCE pH 5.8 ---- MAY 12	MAY 13	MAY 14	MAY 15	---- REFERENCE pH 5.8 ---- MAY 16	MAY 17	MAY 18	MAY 19
DIPTERA cont'd											
Culicidae	A	0	0	0	0	0	0	0.12	0	0	0
Tabanidae	A	0	0	0	0	0	0	0	0	0	0
Rhagionidae	A	0	0	0	0	0	0	0	0	0	0
Oryomyzidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lonchaeidae	A	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0
Dolichopodidae	A	0	0	0	0	0	0	0	0	0	0
Xylophagidae	A	0	0	0	0	0	0	0	0	0	0
Pharidae	A	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA											
Philopotamidae											
Dolophilodes	L	0.64	0.04	0.92	2.03	0	1.8	0.17	1.65	0.28	0
"	A	0	0.04	0	0	0	0	0.58	0	0	0
Psychomyiidae											
Psychomyia	L	0.63	0	0	0	0	0	0.58	0.13	0	0
Polycentropidae											
Polycentropus	L	0	0	0	1.02	0	0.05	0.12	0	0	0
Cyrnellus	L	1.31	0.12	0	0	0	0.82	0.06	0	0	0
Hydropsychidae											
Diplectrona	L	0.04	0	0	0	0	0	0	0.13	0.14	0
"	A	0	0	0	0	0	0	0	0	0	0
Rhyacophilidae	A	0	0	0	0	0	0	0	0.25	0	0
Glossomatidae											
Glossosoma	L	0.63	0.63	0.73	2.03	1.86	0	1.91	0	0	0
Brachycentridae											
Brachycentrus	L	0	0	0	0	0	0.05	0.98	0	0	0
Lepidostomatidae											
Lepidostoma	L	0.64	0	0.73	2.03	0	0	0	0	2.67	2.22
Limnephilidae											
Neophylax	L	0	0	0	0	0	0.05	0.12	0.25	0.14	0
Limnephilus	L	0	0	0	0	0.16	0	0	0	0	0
Platycentropus	L	0.64	0	0	0.13	0	0.05	0.35	0.25	0	0
Ironoquia	L	0	0	0	0	0	0	0.06	0	0	0
Eycnopsyche	L	0	0	0	0	0	0	0	0	0	0
Pseudoneophylax	L	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	0	0	0	1.02	0	0	2.28	2.16	4.49	0
Rhyacophilidae											
Rhyacophila	L	0	0	0	0	0	0	0	0	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- REFERENCE pH 5.8 ---- MAY 12	MAY 13	MAY 14	---- REFERENCE pH 5.8 ---- MAY 15	MAY 16	MAY 17	MAY 18	MAY 19
COLEOPTERA											
Amphizoidae											
Amphizoa	A	0	0	0	0	0	0	0	0	1.12	0
Carabidae	A	0	0	0	0	0	0.05	0	0.13	0	0
Haliplidae											
Haliplus	A	0	0	0	0	0	0.05	0.17	0	0	0
Dytiscidae											
Dytiscus	L	0	0	0	0	0	0	0	0.13	0.14	0
"	A	0	0	0	0	0	0	0	2.04	0	0
Agabus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0.13	0.28	0
Hydaticus	L	0	0.63	0	0	0	1.8	0.29	0.64	8.71	3.1
"	A	0	0	0	0	0	0.05	0	0	0	0
Hydroporus	L	0	0	0	0	0	0.05	0	0	0	0
"	A	0	0	0	0	0	0.05	0.12	0.38	0	0
Hydroscaphidae											
Hydroscapha	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0.73	1.02	1.86	0	0	0	1.12	0.11
Sperchopsis	A	0	0	0	0	0	0.05	0	0	0	0
Staphylinidae	A	0.63	0.67	1.51	1.02	0	0	2.03	0.25	0.14	0
Psephenidae											
Ectopria	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Dryopidae											
Dryops	A	0	0	0	0	0	0	0	0	0	0
Hydrophilidae											
Hydrophilus	A	0	0	0	0.06	0	0	0	0	0.11	0
Elmidae											
Stenelmis	A	0	0	0	0	0	0	0	0	0	0
Rhyacophilidae	A	0	0	0	0	0	0	0	0	0	0
Helodidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Chrysomelidae											
Donacia	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Curculionidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0	0	0	0	0	0	0
Sphaeriidae	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0

Table 33 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- REFERENCE pH 5.0 ---- MAY 12	MAY 13	MAY 14	MAY 15	---- REFERENCE pH 5.8 ---- MAY 16	MAY 17	MAY 18	MAY 19
HEMIPTERA											
Corixidae											
Sigara	A	0	0	0.78	0	0	0	0	0	0	0
Gerridae											
Rheumatobates	A	0	0	0	0	0	0	0	0	0	0
Notonectidae											
Notonecta	A	0	0	0	0	0	0	0	0	0	0
Cercopidae	A	0	0	0	3.05	0	0	0	0	0	0
Pentatomidae		0	0	0	0	0	0	0	0	0	0
Issidae		0	0	0	0	0	0	0	0	0	0
Miridae		0	0	0	0	0	0	0	0	0	0
Coccidae		0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA											
Tortricidae											
Archips	L	0	0	0	0	0	0	0.06	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0.11
Pyralidae											
Acentropus	L	0	0	0.73	0	0	0	0	0.13	0	0
HYMENOPTERA											
Ichneumonidae	A	0	0.04	0.05	1.02	0	0.05	2.14	1.02	4.49	0
Chalcidoidea	A	0	0	0	4.06	0	0	0.12	0	0.28	0
Formicidae	A	0	0	0	0.06	0.06	0	0	0	0.14	0
Tenthredinidae	A	0	0	0	0	0.06	0	0	0	0	0
Mymaridae	A	0	0	0	0	0.06	0	0	1.02	0	0
Cynipidae	A	0	0	0	0	0	0	0	0	0	0.11
Bridramidae	A	0	0	0	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0	0	0	0	0	0	0
Platygasteridae	A	0	0	0	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		0	0	0	0	0	0	0	0	0	0
PSOCOPTERA											
Trogiidae		0.64	0	0	1.02	0	1.64	0.23	4.07	5.[illegible]	[illegible]
ODONATA											
Libellulidae											
Libellula	N	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	N	0	0	0	0	0	0	0	0	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (SPRING 1982)

TAXA	LIFE STAGE	MAY 10	MAY 11	MAY 12	MAY 13	MAY 14	MAY 15	MAY 16	MAY 17	MAY 18	MAY 19
		-PRETREATMENT-		---- REFERENCE pH 5.0 ----			---- REFERENCE pH 5.0 ----				
MISCELLANEOUS											
Tricladida		0	0	0	0	0.93	0.82	0.98	0.13	0	0
Nematoda		0.63	0.00	2.24	0	1.86	10	9.14	12.7	5.76	3.55
Oligochaeta		0.63	3.84	4.44	5.08	0.06	2.21	3.94	9.41	19.7	4.43
Cyclopoida		0	0	0	0	0	1.64	0	0	6.6	0
Harpacticoida		1.27	1.9	0.73	0	0	8.21	6.48	19.3	22.6	3.99
Ostracoda		2.53	0	0	0	0	0	0	0	0	0
Araneidae		0.63	0.63	0.73	0	0.06	0.05	1.33	0.25	0	0
Acarina		1.9	1.9	6.64	3.05	1.86	2.05	4.63	5.09	13.3	4.88
Collembola		5.7	21.5	46.2	30.6	4.64	3.7	10.5	12.5	15.9	4.88
Tartigrada		0	0	0	0	0	0	0	0	4.49	0
Lepomis		0.08	0	0.05	0.44	0	0	0	0	0	0
Eucalia		0.08	0	0.14	0.51	0	0	0	0	0	0
Chrosomus		0	0	0.09	0.13	0	0	0.06	0	0	0.22
Cragonyx		0	0	0	0	0	0	0	0	0.14	0
Rana		0	0	0	0	0	0	0	0	0.14	0
Plethodon		0	0	0	0	0	0	0	0	0.14	0
Bufo		0	0	0	0	0	0	0	0	0	0
Lambarus		0	0	0	0	0	0	0	0	0	0
Napeozapus		0	0	0	0	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0	0
Spirobolidae		0	0	0	0	0	0	0	0	0	0
Chrysopa		0	0	0	0	0	0	0	0	0	0
Sphaerium		0	0	0	0	0	0	0	0	0	0
Planorbis		0	0	0	0	0	0	0	0	0	0
Ixodidae		0	0	0	0	0	0	0	0	0	0
Gordiidae		0	0	0	0	0	0	0	0	0	0

Table 34. Detailed results of drift samples from site B of the spring experiment

BENTHIC INSECT DRIFT DENSITY BY TAXA
(numbers per 1000 cubic meters per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	PRE-TREATMENT 10	PRE-TREATMENT 11	TREATMENT pH 4.8 12	TREATMENT pH 4.8 13	TREATMENT pH 4.8 14	TREATMENT pH 4.2 15	TREATMENT pH 4.2 16	TREATMENT pH 4.2 17	TREATMENT pH 4.2 18	TREATMENT pH 4.2 19
EPHEMEROPTERA											
Siphlonuridae											
Ameletus	N	0	0	1.25	1.55	1.5	1.94	4.91	16	13	7.2
"	A	0	0	0.47	0	0	0.05	0	0.23	0.09	0
Ephemerellidae											
Ephemerella	N	0.15	1.29	0.16	0.05	0.05	0.05	0.88	0.15	0	0
Heptageniidae											
Stenonema	N	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae											
Paraleptophlebia	N	0	0	0	0	0.75	0	0	0	2.85	0
PLECOPTERA											
Leuctridae											
Leuctra	N	12.1	19	10.1	25.9	7.75	20.3	14.6	29.5	34.6	22.8
"	A	0	0	0.05	0	0	0.1	0.06	2.78	4.36	0.62
Nemouridae											
Nemoura	N	11.2	1.09	7.89	13.7	3.95	8.6	9.15	11.9	12.1	5.56
"	A	0	0.16	1.09	1.84	4.04	5.88	5.62	8.27	12.4	3.09
Amphinemoura	N	2.79	0.77	3.48	9.74	5.31	14.1	7.28	28.1	40.6	18.2
Capnidae											
Allocapnia	N	0.12	0.28	2.28	2.33	2.26	10.9	24.3	44.8	123	65
"	A	3.51	4.52	1.82	0.05	0	0.1	0.11	0	0	0
DIPTERA											
Chironomidae											
Pentaneurini	P	0	0	0.05	3.97	3.01	10.4	15.3	23.7	15.7	3.7
"	A	1.33	1.53	4.78	3.34	7.56	6.61	7.99	9.92	12.8	7.41
Larsia	L	1.33	0.08	0	0.87	0.05	0.97	1.98	0.08	1.42	1.23
Paramerina	L	16.1	16.9	21.8	17	18	31.8	17.9	22.3	28.5	11.1
Thienemannimyia	L	0.65	0.2	0.21	2.52	0	0	1.76	2.03	1.42	0
Macropelopiini	P	0	0.04	0	0	0	0	0	0	0	1.23
"	L	0	0	1.3	0	0	0	0	0	0	0
"	A	0	0	0	0.1	0	0	0	0	8.55	4.94
Procladius	L	0.65	1.7	1.71	2.62	2.26	4.08	2.43	6.76	1.42	4.94
Chironomini	P	0	0	0.42	0.77	0	4.32	10.4	13.7	55.6	27.8
"	A	0	0	0	0.82	0	4.23	5.84	7.82	101	95.7
Polypedilum	L	2.02	1.61	7.89	7.46	3.05	5.54	5.79	5.11	7.12	9.88
Chironomus	L	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	0	0.04	0.05	2.33	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Tanytarsus	L	0.81	2.34	6.75	6.3	4.6	9.91	9.26	10.1	19.9	3.09

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	PRETREATMENT MAY 10	MAY 11	TREATMENT pH 4.8 MAY 12	MAY 13	MAY 14	TREATMENT pH 4.2 MAY 15	MAY 16	MAY 17	MAY 18	MAY 19
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	0	0.08	1.25	2.37	0.75	2.33	2.7	2.41	2.85	0
"	A	0	0	0.83	0	0	1.17	0.06	0	9.97	0
Thienemanniella	L	4.52	10.4	5.8	8.63	0	0.78	1.82	1.8	1.42	0
Corynoneura	L	0	0	0	0	0	0	0	0	0	0
Orthocladiini	P	6.46	4.76	7.5	16.5	24.1	27.9	28.4	85.1	148	41.4
"	A	6.1	4.68	25.7	26.7	47.4	91.5	34.4	156	252	152
Cricotopus	L	3.23	2.58	3.92	2.57	3.81	2.82	9.37	12.3	5.7	2.47
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0
"	P	3.23	1.78	0.5	3.1	4.51	15.9	70.9	218	117	63
"	A	2.58	2.18	2.49	3.93	6.81	8.07	31.7	75.5	38.1	50
Parametriocnemus	L	3.96	0.53	0.5	3.25	1.5	2.67	4.52	6.61	14.2	7.41
Psectrocladius	L	11.3	11.1	16.79	9.01	11.3	15.3	15	23.5	27.1	13
Pseudosmittia	L	1.33	1.86	3.89	1.79	1.5	2.62	2.81	3.83	4.27	0.62
Rheocricotopus	L	1.29	1.49	2.28	1.55	0.75	3.98	6.5	4.89	8.55	1.85
Simuliidae											
Simulium	L	16.2	37.6	130	26.2	24.1	22.5	61.8	137	78.3	26.9
"	P	0.73	0.08	0.62	1.65	0.8	6.12	0.28	3.61	4.96	2.47
"	A	3.96	1.09	5.61	3.15	10.5	3.35	3.58	7.22	7.12	8.95
Prosimulium	L	1.94	0.32	2.12	0.05	0.75	7.62	5.13	5.04	0	0.62
"	P	1.29	0.32	2.34	1.07	0	1.55	0.06	0	0	0
"	A	5.21	2.1	9.76	2.52	3.01	0.44	0	0.08	0	0
Ectemnia	L	3.97	3.67	4.78	5.38	3.01	1.6	4.91	3.46	1.51	1.23
"	P	1.29	0.28	2.39	0.92	0	0	0	0	0	0
"	A	5.89	7.35	29.5	9.64	1.5	0	0.94	0	0	0
Athericidae											
Atherix	L	0.08	0.16	4.15	0	0	0	0	0.15	0	0
"	A	0	0	0	0	0	0	0	0.23	0	0
Ceratopogonidae	L	0	0.32	0.41	0	0	0	0.06	0	0	0
"	A	0	0.2	0.78	0	0.75	2.04	0.11	2.1	0	0
Culicoides	L	0	0.04	0	0.1	0	0.19	0.17	0.08	0	0.08
Empididae	L	0	0.2	0.1	0.82	0	0	0	0	0	0
"	A	0	0	0.1	0	0.025	0.15	0.06	0	0	0
Stratiomyidae	L	0.08	0	0.05	0.05	0.05	0.05	0	0	0	0
"	A	0	0	0	0	0	0	0.11	0	0	0
Syrphidae	A	0	0	0.05	0	0.03	0	0	0	0	0
Tipulidae	L	0	0.04	0	0	0	0	0.06	0.08	0	0.08
"	A	0	0.04	1.45	0	1.55	0.32	1.1	0.6	0	0
Helomyzidae	A	0	0	0	0.02	0	0	0	0	0	0
Sciomyzidae	A	0	0	0	0	0	0	0	0	0	0
Muscidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0.1	0	0.15	0	0

Table 38 cont'd

PLASTIC BOTTLE DRIFT DENSITY BY TAXA
(numbers per 1000 cubic meters per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	PRE-TREATMENT REP I	PRE-TREATMENT REP II	TREATMENT pH 4.0 REP I	TREATMENT pH 4.0 REP II	TREATMENT pH 4.0 REP III	TREATMENT pH 4.5 REP I	TREATMENT pH 4.5 REP II	TREATMENT pH 4.5 REP III	TREATMENT pH 4.5 REP IV
COLEOPTERA cont'd										
Curculionidae	A	0	0	0	0	0	0.28	0	0	0
Elmidae	A	0	0	0	0	0.05	0	0	0	0
Elmidae	A	0	0	0	0	0	0	0	0	0
Hydrophilidae	L	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0
Nelichopodidae	A	0	0	0	0	0	0	0	0	0
Xylophagidae	A	0	0	0	0	0	0	0	0	0
Pharidae	A	0	0	0	0	0	0	0	0	0
TRICHOPTERA										
Philopotamidae										
Dolophilodes	L	0.77	0.32	0.47	0.24	1.5	0.34	0.17	0.3	1.51	0
"	A	0	0.04	0.16	0	0.05	0.1	0.11	0.08	0	0
Psychomyiidae										
Psychomyia	L	0.65	0.08	0	0	0.05	0	0.17	0.08	0	0
Polycentropidae										
Polycentropus	L	0.04	0	0.05	0.05	0.05	0.1	0.11	0.15	0	0
Cyrnellus	L	0	0.08	0.05	0.1	0.75	0.83	0	2.03	0	0
Hydropsychidae										
Diplectrona	L	0.04	0.04	0	0.05	0	0.05	0	0.07	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Rhyacophilidae	A	0	0	0	0.82	0	0	0	0	0	0
Glossomatidae										
Glossosoma	L	0.04	1.45	0.05	0.05	0.75	2.33	0.94	1.88	0	0
Brachycentridae										
Brachycentrus	L	0	0	0	0	0	0	0.94	0.23	0	0
Lepidostomatidae										
Lepidostoma	L	0.65	0.04	0	0.82	0.75	0.19	0	0	2.85	3.09
Limnephilidae										
Neophylax	L	0.04	0.16	0.21	0.87	0.05	1.31	0.28	0.75	0	0
Limnephilus	L	0	0	0	0	0.05	0.05	0	0	0	0
Platycentropus	L	0.04	0	0.05	0.05	0.05	0.05	0.06	0	0	0
Ironoquia	L	0	0	0.05	0	0.75	0	0.06	1.2	4.27	1.85
Pycnopsyche	L	0	0	0	0.05	0	0	0	0	0	0
Pseudotenophylax	L	0	0	0	0	0	0.19	0	0.15	0	0
Hydroptilidae	L	0	0	0	0.05	0	0.19	1.76	2.41	5.7	1.54
Phyrganeidae										
Ptilostomis	L	0	0	0	0	0	0	0	0	0	0

BENTHIC OUTFLOW DRIFT DENSITY BY TAXA
(number per 1 cubic meter per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	PRETREATMENT MAY 10	PRETREATMENT MAY 11	TREATMENT pH 4.0 MAY 12	TREATMENT pH 4.0 MAY 13	TREATMENT pH 4.0 MAY 14	TREATMENT pH 4.0 MAY 15	TREATMENT pH 4.2 MAY 16	TREATMENT pH 4.2 MAY 17	TREATMENT pH 4.2 MAY 18	TREATMENT pH 4.2 MAY 19
COLEOPTERA											
Amphizoidae											
Amphizoa	A	0	0	0	0	0	0	0	0.08	0.09	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0
Haliplidae											
Haliplus	A	0	0	0	0	0	0.92	0	1.28	0	0
Dytiscidae											
Dytiscus	L	0	0	0	0.78	0	0	0	0.08	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Agabus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0.08	0	0
Hydaticus	L	0.04	0.08	0.05	0.78	0	0.49	0.39	2.86	2.94	0.31
"	A	0	0	0	0	0	0.05	0	0.07	0.09	0
Hydroporus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0.1	0	0	0.17	0.07	0	0
Hydroscaphidae											
Hydroscapha	L	0.65	0.04	0	0	0	0	0	0	0	0
"	A	0	0.08	0.47	0	0.75	1.55	0.06	0	0	0
Sperchopsis	A	0	0	0	0	0	0.05	0	0	0	0
Staphylinidae	A	0	0	1.66	0	0.75	0.73	1.82	1.35	0	0
Psephenidae											
Ectopria	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Dryopidae											
Dryops	A	0	0	0	0	0	0	0	0	0	0
Hydrophilidae											
Hydrophilus	A	0	0.04	0	0	0	0	0	0	0	0
Elmidae											
Stenelmis	A	0	0	0	0	0	0	0	0.08	0	0
Bostrichidae	A	0	0.04	0	0	0	0	0	0	0	0
Melodidae	L	0	0	0.42	0	0	0	0	0	0	0
"	A	0	0	0	0.05	0.05	0	0.06	0	0	0
Chrysomelidae											
Donacia	L	0	0	0	0	0	0	0	0.08	0	0
"	A	0	0	0	0	0	0.05	0	0.08	0	0
Curculionidae	L	0	0	0	0	0	0	0	0.08	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0	0	0	0	0	0	0
Sphaeridae	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0.05	0	0	0	0	0	0	0

Table 34 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	MAY 12	---- TREATMENT pH 4.8 ---- MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
HEMIPTERA											
Corixidae											
Sigara	A	0	0	0	0	1.5	0.05	0	0.15	0	0
Gerridae											
Rheumatobates	A	0	0.04	0	0	0	0.05	0.11	0	0	0
Notonectidae											
Notonecta	A	0	0	0	0	0	0.05	0	0	0	0
Cercopidae	A	0.04	1.61	0.05	0.78	0.05	0	0	0	0	0
Pentatomidae		0	0	0	0	0	0	0	0.08	0	0
Issidae		0	0	0	0	0	0	0	0	0	0
Miridae		0	0	0	0	0	0	0	0	0	0
Coccidae		0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA											
Tortricidae											
Archips	L	0	0	0	0	0	0	1.05	0.08	0	0
"	A	0	0	0	0	0.05	0	0	0	0	0.08
Pyralidae											
Acentropus	L	0	0	0.05	0	0	0	0	0	0	0
HYMENOPTERA											
Ichneumonidae	A	0.65	0.04	0.42	0.05	0.8	0.19	2.04	0.08	0.09	0.08
Chalcidoidea	A	0	0	0.42	0.78	1.5	0.83	0.88	0.08	0	0.23
Formicidae	A	0	0.08	0	0	1.55	0.1	0.17	1.28	0.09	0
Tenthredinidae	A	0	0	0	0	0	0	0	0.15	0.09	0
Mymaridae	A	0	0	0	0	0	0.19	0	0	0	0
Cynipidae	A	0	0.04	0	0	0	0	0	0	0.18	0
Braconidae	A	0	0	0.05	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0.78	0	0	0	0	0	0
Platygasteroidea	A	0	0	0	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		0	2.58	0	0.62	0	0	0.55	0	1.42	0.08
COLEOPTERA											
Eroglidae		0	0	0	0	0	0.33	0	0	0.25	2.0
ODONATA											
Libellulidae											
Libellula	N	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	N	0	0	0	0	0	0	0	0	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	MAY 12	---- TREATMENT pH 4.8 ---- MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
MISCELLANEOUS											
Tricladida		0	0.04	0	0	0.04	0.05	0.94	0	0.09	0
Nematoda		0.04	0	0.41	0.05	0.75	2.09	6.12	0.68	1.6	1.85
Oligochaeta		0	0.04	2.08	0.92	0	2.14	4.68	1.43	2.85	0
Cyclopoida		0	0	0	0	0.75	0.19	0	1.28	2.85	0
Harpacticoida		0	1.29	0	0	0.75	1.75	8.82	1.88	14.2	8.95
Ostracoda		0	0	0	0	0	0	0	0	0	0
Araneidae		1.37	0.2	0.62	0.87	3.01	1.26	1.05	0.38	0.09	0
Acarina		3.88	2.91	6.7	5.67	3.81	4.66	5.29	4.81	24.2	4.32
Collembola		1.94	8.4	22.4	16.5	7.52	8.65	5.51	14	28.7	2.78
Tartigrada		0	0	0	0	0	0	0	0	0	0
Lepomis		0	0.08	0.15	0	0.05	0.34	0	0.08	0	0.69
Eucalia		0.28	0.12	0.25	0.05	0	0.15	0	0.75	0.18	0.08
Chrosomus		0.12	0.12	0.36	0.05	0.39	0.39	0.06	0	0	0.15
Crangonyx		0	0	0	0	0	0	0	0	0	0
Rana		0.08	0	0	0.05	0	0	0	0	0.09	0
Plethodon		0	0	0	0	0	0	0	0	0	0
Bufo		0	0	0	0.05	0	0	0	0	0	0
Cambarus		0.04	0	0	0	0	0	0	0	0	0
Notoxozapus		0	0	0	0.05	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0.09	0
Spirobolidae		0	0	0	0	0	0	0	0	0	0
Chrysopa		0	0	0	0	0	0	0	0	0	0
Sphaerium		0	0	0	0	0	0	0	0	0	0
Planorbis		0	0	0	0	0	0	0	0	0	0
Ixodidae		0	0	0	0	0	0	0	0	0	0
Gordiidae		0	0	0	0	0	0	0	0	0	0

Table 35. Detailed results of drift samples from site C of the spring experiment.

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- TREATMENT pH 4.8 ---- MAY 12	MAY 13	MAY 14	---- TREATMENT pH 4.2 ---- MAY 15	MAY 16	MAY 17	MAY 18	MAY 19
EPHEMEROPTERA											
Siphlonuridae											
Ameletus	N	7.72	0	0.93	0.7	0.05	1.76	4.41	5.26	0	1.3
"	A	0	0	0	0	0.1	0.95	0.06	0.38	0.09	0.15
Ephemerellidae											
Ephemerella	N	0	1.29	0.93	0	0	0.76	0.17	0.08	0	0
Heptageniidae											
Stenonema	N	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae											
Paraleptophlebia	N	0	0	0.93	0.66	0	0	0.88	0	0	0
PLECOPTERA											
Leuctridae											
Leuctra	N	22.8	15.2	18.8	15.9	27.3	22.7	29.3	44.9	74.1	71.2
"	A	10.62	2.26	3.26	0	0	0.48	0.99	0.08	1.42	1.23
Nemouridae											
Nemoura	N	5.56	17.1	9.42	3.93	3.01	5.5	7.72	9.77	31.3	31.5
"	A	3.09	1.33	0.05	2.77	2.6	4.27	8.71	5.34	7.12	4.91
Amphinemoura	N	18.2	0.16	15.4	5.37	26.5	8.02	10.3	39.4	55.6	34.4
Capnidae											
Allocapnia	N	65	2.06	0.1	0	5.76	24.7	62.4	126	257	156
"	A	0	0.36	0.47	0.04	0	0	0.28	0.15	0	0
DIPTERA											
Chironomidae											
Pentaneurini	P	3.7	0	0.12	0.99	0.97	7.59	4.19	4.58	0	4.91
"	A	7.41	2.58	3.89	1.03	6.53	2.13	3.91	1.28	0	0
Larsia	L	1.23	1.33	0.93	0	0.1	0	1.93	0.08	0.09	0
Paramerina	L	11.1	13.8	22	12.1	24.6	15.6	18.2	13.2	25.6	28.2
Thienemanniella	L	0	1.33	6.75	0.41	0	0.19	0	1.28	0	0
Micropsectrini	P	1.23	0.04	0	0	0	0	0	2.41	0	0
"	L	0	0	0	0	0	0	0	0	0	0
"	A	4.94	0	0	0	0	0	0	0	0	0
Procladius	L	4.94	1.41	2.85	1.78	4.18	2.94	1.54	3.76	1.96	3.68
Tanytarsini	P	22.8	0	0.93	0	0	1.21	2.27	14.4	10.3	14.7
"	A	95.7	0	0	0	0	1.52	0.82	5.64	18.5	0.6
Polypedilum	L	9.88	5.49	1.85	6.66	4.18	4.84	2.48	6.91	1.07	4.91
Thienemyia	L	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	0	0.04	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Tanytarsus	L	3.09	6.66	4.63	3.31	4.95	5.36	10.4	10.8	1.49	11.1

Table 35 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	MAY 12	---- TREATMENT pH 4.0 ---- MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	0	1.41	1.86	2.31	0	1.38	2.7	3.08	1.42	0
"	A	0	0	0.93	0	0	0.24	1.05	1.2	0	0
Thienemanniella	L	0	13.7	12.1	3.68	0	0.43	1.82	5.56	2.14	3.68
Corynoneura	L	0	0	0	0	0	0	0	0	0	0
Orthocladiini	P	41.4	7.19	31.1	19.6	19	18.2	22.4	41.8	119	24.6
"	A	152	5.69	12.5	19.6	28.8	13.3	29.9	34.2	93.3	34.4
Cricotopus	L	2.47	7.27	10.24	4.3	4.18	5.03	10.5	15.5	3.21	11.1
Eukiefferiella	L	0	0	0	0	0	0	0	0	0	0
"	P	63	4.52	10.24	2.65	17.1	14.6	27.9	73.7	54.1	63.9
"	A	50	3.23	1.86	6.94	4.08	4.36	14.5	30.1	8.55	65.1
Parametriocnemus	L	7.41	4.68	2.85	1.03	1.73	2.75	6.67	14.8	4.63	27
Psectrocladius	L	13	14.8	23	7.44	6.02	9.82	10.9	31.3	6.59	19.6
Pseudosmittia	L	0.62	2.06	6.57	1.36	5.81	5.79	4.02	8.12	1.96	6.14
Rheocricotopus	L	1.85	5.21	10.4	3.97	4.95	4.27	3.91	10	1.78	7.37
Simuliidae											
Simulium	L	26.9	35	82.44	31.3	49.2	25.4	148	164	77.6	68.8
"	P	2.47	0.73	0.17	1.41	5.05	1.61	5.68	4.96	10.7	4.91
"	A	8.95	1.37	1.22	0.7	1.89	2.99	6.61	8.12	4.99	11.1
Prosimulium	L	0.62	0.12	2.85	0.99	6.63	5.03	4.74	3.31	1.42	0
"	P	0	0.73	2.04	2.07	0.82	1.57	0	0.08	0	0
"	A	0	7.43	2.15	2.36	1.63	0.05	0.33	0.15	0	0
Ectemnia	L	1.23	3.35	11.63	6.57	0.2	3.46	13.7	6.61	1.42	0
"	P	0	1.57	1.28	2.4	0	0.26	0	0	0	0
"	A	0	9.49	15.24	4.05	0	0.76	0.99	1.43	0	0
Athericidae											
Atherix	L	0	0.69	0.98	0.04	0.82	0.57	0	1.95	0.09	0
"	A	0	0	0	0	0	0.43	0	0	0	0
Ceratopogonidae	L	0	0.04	0.06	0	0	0	0.99	0	0	0
"	A	0	0	0.17	0	0.05	0.62	4.35	0.98	0	0
Culicoides	L	0.08	0	0	0	0	0.76	0.06	0.08	0.09	0.24
Empididae	L	0	0.12	1.16	0.33	0.05	0	0.11	0	0	0
"	A	0	0	0	0	0	1.28	1.49	0.38	0	0
Stratiomyidae	L	0	0.04	0.12	0	1.78	0	0	0	0	0
"	A	0	0	0	0	0	0.76	0	0	0.3	0
Syrphidae	A	0	0	0	0.04	0	0	0	0.08	0	0
Tipulidae	L	0.08	0	0.12	0.33	0	0.14	0.22	0.23	0.09	0.31
"	A	0	0	0	0	0.05	1.19	2.19	3.16	0	0
Melanomyzidae	A	0	0	0	0	0	0	0.44	0.08	0	0
Sciomyzidae	A	0	0	0	0	0	0	0	0	0	0
Muscidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0

Table 35 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	MAY 12	---- TREATMENT pH 4.8 ---- MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
DIPTERA cont'd											
Culicidae	A	0	0	0	0	0	0	0	0	0	0
Tabanidae	A	0	0	0	0	0	0	0	0	0.09	0
Rhagionidae	A	0	0	0	0.04	0	0	0	0	0	0
Dryomyzidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lonchaeidae	A	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	0	0	0	0	0	0	0	0	0
Dolichopodidae	A	0	0	0	0	0	0	0	0	0	0
Xylophagidae	A	0	0	0	0	0	0	0	0	0	0
Pharidae	A	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA											
Philopotamidae											
Dolophilodes	L	0	0.04	0.12	0.33	0	0.29	0.17	0.98	3.03	0
"	A	0	0	0	0	0	0	0.33	0	0	0
Psychomyiidae											
Psychomyia	L	0	0.08	0	0	0	0.76	1.87	0	0	0.15
Polycentropidae											
Polycentropus	L	0	0	0.06	0	0	0.05	0.11	0	0	0
Cyrnellus	L	0	0.65	0	0.04	1.63	0	0	0.23	0	0
Hydropsychidae											
Diplectrona	L	0	0	0	0	0	0	0.06	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Rhyacophilidae	A	0	0.65	0.12	0.08	0	0	0.06	0	0	0
Glossomatidae											
Glossosoma	L	0	0.04	0.06	0.37	0.82	0.76	0	0	0	0
Brachycentridae											
Brachycentrus	L	0	0	0	0	0	0	0.06	0.08	0	0
Lepidostomatidae											
Lepidostoma	L	3.09	1.29	1.92	0.99	2.5	1.38	1.21	3.01	5.7	4.91
Limnephilidae											
Neophylax	L	0	0	1.92	0.04	0.05	0.43	0.11	0.08	0	2.49
Limnephilus	L	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0.06	0	0	0	0	0	0	0
Ironoquia	L	1.85	0	0	0	0	0.38	0.06	2.18	1.42	1.23
Pycnopsyche	L	0	0	0	0	0	0	0	0	0	0
Pseudostenophylax	L	0	0	0	0	0	0.19	0	0	0	0
Hydroptilidae	L	1.54	1.29	0	0	0	0.57	0.89	0.31	11.4	1.23
Rhyacophilidae											
Rhiostomis	L	0	0	0	0	0	0	0	0	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	---- TREATMENT pH 4.8 ---- MAY 12	MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
COLEOPTERA											
Amphizoidae											
Amphizoa	A	0	0	0	0	0	0	0.06	0	0	0
Carabidae	A	0	0	0	0	0	0.05	0	0	0	0.08
Haliplidae											
Haliplus	A	0	0	0	0	0	0	0	0	0	0
Dytiscidae											
Dyticus	L	0	0	0.99	0.33	0	0.05	0	1.2	0	0
"	A	0	0.12	0	0	0	0	0	0	0	0
Agabus	L	0	0	0	0	0	0	0	0	0.09	0
"	A	0	0	0	0	0	0	0.06	0	0	0
Hydaticus	L	0.31	0.04	2.04	0.12	1.78	1.09	2.43	1.05	0	3.68
"	A	0	0	0	0	0	0	0.06	0	0	0
Hydroporus	L	0	0.08	0.06	0	0	0	0	0	0	0
"	A	0	0	0	0.04	0	0	0	0	0	0
Hydroscaphidae											
Hydroscapha	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0.65	0.93	0	0	0	0	0	0	0
Sperchopsis	A	0	0	0.06	0	0	0	0.11	0	0	0
Staphylinidae	A	0	0	0.93	0	0.82	0.24	0.94	0.15	1.42	0
Psephenidae											
Ectopria	L	0	1.29	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0.05	0	0	0	0
Dryopidae											
Dryops	A	0	0	0	0	0	0	0.06	0	0	0.08
Hydrophilidae											
Hydrophilus	A	0	0	0.06	0	0	0	0.06	0.08	0	0
Elmidae											
Stenelmis	A	0	0	0	0	0	0	0	0	0	0
Dactrichidae	A	0	0	0	0	0	0	0	0	0	0
Helodidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0.06	0.08	0	0
Chrysomelidae											
Donacia	L	0	0.04	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0.11	0	0	0
Curculionidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0.05	0	0	0	0	0
Lampyridae	A	0	0.04	0	0	0	0	0	0	0	0
Sphaeriidae	A	0	0	0	0	0	0.19	0	0	0	0
Corabidae	A	0	0	0	0	0	0	0	0	0	0

Table 35 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	-PRETREATMENT- MAY 10	MAY 11	MAY 12	---- TREATMENT pH 4.8 ---- MAY 13	MAY 14	MAY 15	---- TREATMENT pH 4.2 ---- MAY 16	MAY 17	MAY 18	MAY 19
HEMIPTERA											
Corixidae											
Sigara	A	0	0	0	0	0	0	0	0	0	0
Gerridae											
Rheumatobates	A	0	0	0	0	0	0.05	0	0	0	0
Notonectidae											
Notonecta	A	0	0	0	0	0	0	0	0	0	0
Cercopidae	A	0	0	0.93	0	0	0.05	0	0	0	0.08
Pentatomidae		0	0	0	0	0	0	0	0.75	0.09	0.08
Issidae		0	0	0	0	0	0	0	0	0	0
Miridae		0	0	0	0	0	0	0	0	0	0
Coccidae		0	0	0	0	0	0	0	0	0	0
LEPIDOPTERA											
Tortricidae											
Archips	L	0	0.08	0.06	0.04	0.05	0.1	0.88	0.22	0	0
"	A	0.08	0	0	0	0	0	0.11	0.3	0.18	0
Pyralidae											
Acentropus	L	0	0	0	0	0	0	0	0	0	0
HYMENOPTERA											
Ichneumonidae	A	0.08	0	0	0.66	0	0	0.06	0.08	0	0.08
Chalcidoidea	A	0.23	0.65	0.05	0	0	0	0.11	0.68	0	0
Formicidae	A	0	0	0.93	0	0	0	0	0.08	0	0
Tenthredinidae	A	0	0	0	0	0	0.05	0	0.08	0.09	0
Mymaridae	A	0	0	0	0	0	0	0.06	0	0	0
Cynipidae	A	0	0	0	0	0	0	0	0	0	0
Andrenidae	A	0	0	0	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0	0	0	0.06	0	0	0
Platygasteridae	A	0	0	0	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		0.77	0	0	0.33	0	0	0	0	0	0.08
COLEOPTERA											
Staphylinidae		2.16	0	2.79	0	0	1.11	0	1.56	0.71	1.19
ODONATA											
Libellulidae											
Libellula	N	0	0	1	0	0	0	0	0	0	0
Corduliagastridae	N	0	0	0	0	0	0	0	0	0	0

Table 35 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (SPRING 1982)

TAXA	LIFE STAGE	PRETREATMENT MAY 10	MAY 11	TREATMENT pH 4.8 MAY 12	MAY 13	MAY 14	MAY 15	TREATMENT pH 4.2 MAY 16	MAY 17	MAY 18	MAY 19
MISCELLANEOUS											
Tricladida		0.88	1.29	0	0.7	0	0	0.11	0	0	0
Nematoda		1.85	0	2.91	1.03	0	5.88	7.55	2.63	0	0
Oligochaeta		0	1.41	2.85	1.32	0.1	2.09	6.28	9.85	2.85	3.68
Cyclopoida		0	0	0	0	0	1.71	0	0	1.42	2.46
Harpacticoida		8.95	0	0	1.32	5.71	10.7	23	20	17.1	9.82
Ostracoda		0	0	0	0	0	0	1.76	1.8	0	0
Araneidae		0	0.04	0	1.32	0.82	0.76	0.17	0.15	0.09	0.08
Acarina		4.32	3.88	8.28	1.65	1.63	1.9	3.69	9.62	8.55	14.7
Collembola		2.78	3.23	7.44	6.61	1.68	4.74	4.63	11.5	5.7	12.3
Tartigrada		0	0	0	0	0	0	0	0	0	0
Lepomis		0	0.69	0	0	0	0	0	0.08	0.18	0
Eucalia		0.08	0	0	0	0.1	0.05	0	0	0	0
Chrosomus		0.15	0	0.06	0	0	0	0.11	0	0	0
Crangonyx		0	0	0	0	0	0	0	0	0	0
Rana		0	0.04	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0	0	0
Bufo		0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0
Napeozapus		0	0	0	0	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0	0
Spirobolidae		0	0	0	0.04	0	0	0	0	0	0
Chrysopa		0	0	0	0	0.19	0	0	0	0	0
Sphaerium		0	0	0	0	0	0	0	0	0	0
Planorbis		0	0	0	0	0	0	0	0	0	0
Isodidae		0	0	0	0	0	0	0	0	0	0
Gordiidae		0	0	0	0	0	0	0	0	0	0

Table 36. Detailed results of drift samples from site A of the autumn experiment.

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- REFERENCE pH 6.4 ---- SEPT 17	SEPT 18	SEPT 19	---- REFERENCE pH 6.4 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
EPHEMEROPTERA											
Siphlonuridae											
Ameletus	N	0	0	0	0	4.69	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ephemerellidae		0	0	0	0	0	0	0	0	0	0
Ephemerella	N	2.02	0	1.77	1.88	1.17	5.22	4.86	0.98	9.13	0.36
Heptageniidae	A	0	0	0	0	0	0	0	0	0	0
Stenonema	N	0	0	0	0	0	0	0	3.91	0	0
Leptophlebiidae	A	0	0	0	0	0	0	0	0	0	0
Paraleptophlebia	N	1.16	0	12.7	0	0.29	0.08	4.15	0.12	4.1	0.12
PLECOPTERA											
Leuctridae	A	0	0	0	0	0	0	0	0	0	0
Leuctra	N	0.29	0	0	0	0.29	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Nemouridae	A	0	0	0	0	0	0	0	0	0	0
Nemoura	N	0.58	0	0.35	0	4.69	5.14	2.14	4.15	0	1.96
"	A	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0
Capnidae		0	0	0	0	0	0	0	0	0	0
Allocapnia	N	0	0	0	0	4.69	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
DIPTERA											
Chironomidae	A	0	0	0	0	0	0	0	0	0	0
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0
"	A	0.58	22.9	0	0	0	0	0	0	0	0
Larsia	L	0.58	0	0	0	0.29	0	0	0	0	0
Paramerina	L	2.02	0	0	5.32	9.38	0	0	0	0	0
Thienemanniella	L	2.02	0.65	3.18	0.91	0	0.16	0	0	0	0.06
Macropelopiini	P	0	0	0.35	0	0	0	0	0	0	0
"	L	14.4	62.0	48.1	55.1	18.8	24.9	7.59	0	38.4	5.21
"	A	0	0	0	0	0	0	0	0	0	0
Procladius	L	0	0	0.35	0	0	0	0	0	0	0
Chironomini	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	160	1.21	125	153	[illegible]	[illegible]	68.3	79.2	93.9	43.9
Chironomus	L	0	0	0	0	0	0	0	0	0	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Tanytarsus	L	130	150	110	72.6	[illegible]	[illegible]	50.8	91	105	[illegible]

Table 36 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	---- REFERENCE pH 6.4 ---- SEPT 16	SEPT 17	SEPT 18	SEPT 19	---- REFERENCE pH 6.4 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	0.58	10.5	17	0.31	4.69	10.1	5.7	5.85	3.75	3.8
"	A	0	0	0	5.01	4.98	2.65	3.92	0	0	0.12
Thienemanniella	L	74	64.7	65.1	18.1	14.4	12.6	11.4	4.15	15	1.9
Corynoneura	L	46.8	47.1	17	12.2	14.1	9.97	0	9.76	0	0.06
Orthocladiini	P	5.78	26.8	19.8	16.6	5.27	0	5.7	8.17	7.49	0
"	A	3.18	9.15	17	1.25	0	2.49	1.9	3.9	3.75	0.06
Cricotopus	L	13.9	10.5	0	11.6	9.38	7.64	22.8	2.32	30.2	13.7
Eukiefferiella	L	0	0	0	0	0	2.49	0	0.24	0	0
"	P	0.58	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	1.16	15.7	0	5.01	0.29	12.6	7.59	0	0	0
Psectrocladius	L	3.47	5.23	0	2.19	0	0.16	0	0	0.23	0
Pseudosmittia	L	0	0	0	0.63	0	0	0	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0
Simuliidae		0	0	0	0	0	0	0	0	0	0
Simulium	L	0.58	0.65	0.35	0.31	0.29	0	0	1.95	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	0	1.31	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Athericidae		0	0	0	0	0	0	0	0	0	0
Atherix	L	1.44	0	11.3	10.3	0	4.99	0	3.9	3.75	0
"	A	0.29	0.65	0	0	0	0	0	0	0	0
Ceratopogonidae	L	0.58	0	0	0	0	0.08	0	0.12	3.75	0
"	A	0	0	0	0	0	0	0	0	0	0
Culicoides	L	0	0	14.1	0	0	10.1	1.9	0	0	0
Empididae	L	0	0	0	0	4.69	0	0	0.12	0	0
"	A	0	0	0	0	0.29	0	0	0	0	0
Stratiomyidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	1.31	0	0	0	0	0	0	0	0
Syrphidae	A	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	0	0	0	0.12	0.12	0.75	0.1
"	A	0	0.65	0	0.63	0	0	0	0	0	0
Heleomyzidae	A	0	0	0	0	0	0	0	0	0	0
Sciomyzidae	A	0	0	0	0	0	0	0	0	0	0
Muscidae	L	0	0	0	0	4.69	0	0	3.9	0	0
"	A	0	0	0	0	0	0	0	0	0	0

Table 36 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- REFERENCE pH 6.4 ---- SEPT 17	SEPT 18	SEPT 19	---- REFERENCE pH 6.4 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
DIPTERA cont'd											
Culicidae	A	0	0	0	0	0	0	0	0	0	0
Tabanidae	A	0	0	0	0	0	0	0	0	0	0
Phagionidae	A	0	0	0	0	0	0	0	0	0	0
Oryomyzidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0.35	0	0	0	0	0	0	0
Lonchaeidae	A	0	0	0	0	0	0	0	0	0	0
Mycetophilidae	A	0	3.92	0	0	0	0.31	2.14	0	0	0
Dolichopodidae	A	0	0.65	0	0	0	0	0	0	0	0
Xylophagidae	A	0	0	0	0	0	0	0	0	0	0
Pharidae	A	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA											
Philopotamidae	L	0	0	0	0	0	0	0	0	0	0
Dolophilodes	L	5.49	0.65	5.66	10	0	0.08	2.02	0.12	0.12	0.18
"	A	0	0.65	0.35	0	0	0	0	0	0	0
Psychomyiidae		0	0	0	0	0	0	0	0	0	0
Psychomyia	L	0	0	0	0.31	0	0.08	3.8	1.95	3.75	0.12
Polycentropidae		0	0	0	0	0	0	0	0	0	0
Polycentropus	L	0.58	0	0	0	0	0	0	0.24	0	0.06
Cyrnellus	L	0	0	0	0	4.98	0.08	0	0	0	0
Hydropsychidae		0	0	0	0	0	0	0	0	0	0
Diplectrona	L	2.31	1.96	0.35	0.31	0.29	0	0.36	0	0.23	0.24
"	A	0	0	0	0	0	0	0	0	0	0
Rhyacophilidae	A	0	0	0	0	0	0	0	0	0	0
Glossomatidae		0	0	0	0	0	0	0	0	0	0
Glossosoma	L	0	5.23	0	0	0	0.08	0	0	0.12	0.06
Brachycentridae		0	0	0	0	0	0	0	0	0	0
Brachycentrus	L	0	0	0	0	0	0	0	0	0	0
Lepidostomatidae		0	0	0	0	0	0	0	0	0	0
Lepidostoma	L	0.58	0	0	0.31	0	0	0	0	7.49	0
Limnephilidae		0	0	0	0	0	0	0	0	0	0
Neophylax	L	0.58	0	0	0	0	0	0	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0
Ironoquia	L	0	0	0	0	0	0	0	0	0	0
Pycnopsyche	L	0	0	0	0	0	0	0	0	0	0
Pseudotenophylax	L	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	4.62	0	0	0	4.69	0.08	0	0	0	0
Rhyacophilidae											
Ptilostomis	L	0.58	0	0	0.31	0.29	0	0	0.12	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (AUTUMN 1982)

		--PRETREATMENT-	---- REFERENCE pH 6.4 ----			---- REFERENCE pH 6.4 ----					
TAXA	LIFE STAGE	SEPT 14	SEPT 15	SEPT 16	SEPT 17	SEPT 18	SEPT 19	SEPT 20	SEPT 21	SEPT 22	SEPT 23
COLEOPTERA											
Amphizoidae		0	0	0	0	0	0	0	0	0	0
Amphizoa	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0
Haliplidae		0	0	0	0	0	0	0	0	0	0
Haliplus	A	0	0	0	0	0	0	0	0	0	0
Dytiscidae		0	0	0	0	0	0	0	0	0	0
Dyticus	L	0	0	0	0.31	0	0	0	0	0.12	0
"	A	0	0	0	0	0	0	0	0	0	0
Agabus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0.65	0	0	0	0	0	0	0	0
Hydroporus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0.35	0	0	0	0	0	0	0
Hydroscaphidae		0	0	0	0	0	0	0	0	0	0
Hydroscapha	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0.29	0	0.12	0.24	0.12	0.24
Sperchopsis	A	0	0	0	0	0	0	0	0	0	0
Staphylinidae	A	0	0	0	0	0	0	0	0	0	0
Psephenidae		0	0	0	0	0	0	0	0	0	0
Ectopria	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Dryopidae		0	0	0	0	0	0	0	0	0	0
Dryops	A	0	0	0	0	0	0	0	0	0	0
Hydrophilidae		0	0	0	0	0	0	0	0	0	0
Hydrophilus	A	0	0	0	0	0	0	0.12	0	0	0
Elmidae		0	0	0	0	0	0	0	0	0	0
Stenelmis	A	0	0	0	0	0	0	0	0	0	0
Dostrichidae	A	0	0	0	0	0	0	0	0	0	0
Helodidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Chrysomelidae		0	0	0	0	0	0	0	0	0	0
Donacia	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Curculionidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0	0	0	0	0	0	0
Sphaeriidae	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0

Table 36 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE A (AUTUMN 1982)

		-PRETREATMENT-		---- REFERENCE pH 6.4 ----				---- REFERENCE pH 6.4 ----			
TAXA	LIFE STAGE	SEPT 14	SEPT 15	SEPT 16	SEPT 17	SEPT 18	SEPT 19	SEPT 20	SEPT 21	SEPT 22	SEPT 23
HEMIPTERA											
Corixidae		0	0	0	0	0	0	0	0	0	0
Sigara	A	0	0	0	0	0	0	0	0	0	0
Gerridae		0	0	0	0	0	0	0	0	0	0
Rheumatobates	A	0	0.65	0	0	0	0	0	0	0	0
Notonectidae		0	0	0	0	0	0	0	0	0	0
Notonecta	A	0	0	0	0	0	0	0	0	0	0
Cercopidae	A	0	0	0.35	0.31	0	0.16	0.12	0.49	0	0.12
Pentatomidae		0	0	0	0	0	0	0	0	0	0
Issidae		0	0	0	0	0	0	0.12	0	0	0.06
Miridae		0	0	0	0	0	0	0	0	0	0
Coccidae		0	0	0	0	0	0	0	1.95	0	0
LEPIDOPTERA											
Tortricidae		0	0	0	0	0	0	0	0	0	0
Archips	L	0	1.96	0.35	0	0	0.08	0	0	0	0.12
"	A	0.58	0	0	0	0.29	0	0	0	0	0
Pyralidae		0	0	0	0	0	0	0	0	0	0
Acentropus	L	0	0	0	0	0	0	0	0	0	0
HYMENOPTERA											
Ichneumonidae	A	0	0	0	0	0	0	0	0.12	0	0
Chalcidoidea	A	0	10.5	0	0	0	0	0	0	3.75	0
Formicidae	A	0.58	6.54	0	0.31	0	0	0	2.32	0	0
Tenthredinidae	A	0	0	0	0	0	0	0	0	0	0
Mymaridae	A	0	0	0	0	0	0	0	0	0	0
Cynipidae	A	0	0	0	0	0	0	0	0	0	0
Andrenidae	A	0	0	0	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0	0	0	0	0	0	0
Platygasteridae	A	0	0	0	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		1.44	1.31	0.35	0.31	0.29	0.23	0	0.12	0	0
PSOCOPTERA											
Troglidae		0	0	0	0.63	0.29	5.22	0	0	0	0.12
ODONATA											
Libellulidae		0	0	0	0	0	0	0	0	0	0
Libellula	N	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	N	0	0	0	0	0	0	0	0	0	0

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SILL 6 (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- REFERENCE pH 6.4 ---- SEPT 17	SEPT 18	SEPT 19	---- REFERENCE pH 6.4 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
MISCELLANEOUS											
Tricladida		0	0	0	0	0	0	0	0	0	0
Nematoda		14.4	0	0	0	4.69	5.06	0	0	0	0
Oligochaeta		15.9	5.23	42.8	1.25	9.67	0.08	7.83	0.12	7.49	0
Cyclopoida		0	0	0	0	0	0	0	0	0	0
Harpacticoida		9.25	20.9	5.66	10	4.69	0	7.59	1.95	7.73	7.61
Ostracoda		0	0	0	0	0	0	0	0	0	0
Araneidae		0.29	6.54	0	0.31	0	0	0.24	0	0.12	0
Acarina		13	10.5	11.3	15	23.4	0	7.59	1.95	0	1.9
Collembola		6.94	84.4	0	0	0	4.99	7.59	0.37	3.75	0.06
Tartigrada		0	0	0	0	0	0	0	0	0	0
Lepomis		0	0	0	0	0	0	0	0	0	0
Eucalia		0	0	0	0	0	0	0	0.12	0	0
Chrosomus		0	0	0	0	0	0	0	0	0	0
Crangonyx		0	0	0	0	0	0	0	0	0	0
Rana		0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0	0	0	0	0.12	0	0
Bufo		0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0.35	0.31	0	0	0	0	0	0
Napeozapus		0	0	0	0	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0	0
Spirobolidae		0	0	0	0	0	0	0	0	0	0
Chrysopa		0	0	0	0	0	0	0	0	0	0
Sphaerium		0.58	0	0	0	0	0	0	0	0	0
Planorbis		0	0	0	0	0	0.08	0	0	0	0
Ixodidae		0	0	0	0	0	0	0	0	0	0
Gordiidae		0	0	0	0	0	0	0	0	0	0

Table 37. Detailed results of drift samples from site B of the autumn experiment.

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (AUTUMN 1982)

		-PRETREATMENT-		---- TREATMENT pH 4.8 ----			---- TREATMENT pH 4.2 ----				
TAXA	LIFE STAGE	SEPT 14	SEPT 15	SEPT 16	SEPT 17	SEPT 18	SEPT 19	SEPT 20	SEPT 21	SEPT 22	SEPT 23
EPHEMEROPTERA											
Siphlonuridae											
Amelitus	N	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ephemerellidae											
Ephemerella	N	13.1	0	1.02	1.52	0.75	3.23	2.61	1.86	1.05	0.15
Heptageniidae											
Stenonema	N	0	0	0	0	0	0	0	0	0	0
Leptophlebiidae											
Paraleptophlebia	N	0	0.56	0.51	0.51	1.5	11.8	15.3	9.3	8.82	1.6
PLECOPTERA											
Leuctridae											
Leuctra	N	0	0	0	0	5.99	0	2.2	0	4.21	0
"	A	0	0	0	0	0	0	0	0	0	0
Nemouridae											
Nemoura	N	0	0	0	0	5.99	5.74	0.14	17	0	1.65
"	A	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0
Capnidae											
Allocapnia	N	0	0	0	0.51	5.99	4.59	0	0	4.21	0
"	A	0	0	0	0	0	0	0	0	0	0
DIPTERA											
Chironomidae											
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0
"	A	0.65	6.74	0	0	0	0	0	0	4.21	0
Larsia	L	0	0	0	4.55	5.99	0	0	0	0	0
Paramerina	L	0	0	0	26.3	12	0.14	0	0	16.8	0
Thienemannimyia	L	1.31	9.55	8.18	11.1	18	0	4.54	9.04	4.47	1.75
Macropelopiini	P	0	0	0	0	0	0	0	0	0	0
"	L	20.9	49.4	61.4	61.7	24	27.6	8.81	8.5	4.21	1.6
"	A	0	0	0	0	0	0	0	0	0	0
Procladius	L	0	2.25	0	0	0	4.74	0	0	0	0
Chironomini	P	10.5	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	144	171	164	217	152	161	86	208	129	49.6
Chironomus	L	0	0	0	0	0	0.14	0.28	0	0.13	0
Tanytarsini	P	0	0.56	0.51	0	0	0	61.7	0	0	0
"	A	0	0	0	0	0	0	8.81	0	0	0
Tanytarsus	L	203	119	102	123	127	122	22	186	115	57.7

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 1000 cubic meters per day)

SITE 6 AUTUMN 1982

TAXA	LIFE STAGE	PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.0 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	0	6.74	0	21.7	12	6.89	6.61	59.5	16.8	4.94
"	A	0	0	0	16.7	18.7	9.33	0	25.5	4.21	0
Thienemanniella	L	52.3	56.7	73.6	167	138	85.1	37.7	155	72.5	12.9
Corynoneura	L	20.9	22.5	53.2	41.9	18	36.7	4.4	8.5	12.9	1.6
Orthocladiini	P	15.7	15.7	20.5	37.9	6.74	1.22	18.3	17	54.7	3.2
"	A	22.2	66.3	49.6	24.3	5.99	0.07	4.4	17	4.34	3.2
Cricotopus	L	10.5	11.2	8.18	9.1	0	40.2	31.2	68.6	61.2	30.6
Eukiefferiella	L	0	0	0	0	0	14.9	4.4	0	4.21	1.65
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	11.1	0.56	0	26.8	12.7	18.5	11	0	0	4.79
Psectrocladius	L	11.8	0	0	17.2	0	0.07	0	0.27	0	0
Pseudosmittia	L	0	0	0	17.2	0.75	9.19	0	0	8.55	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0
Simuliidae											
Simulium	L	26.8	8.99	12.3	1.01	12	9.19	0	8.5	0	3.25
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Athericidae											
Atherix	L	0.65	0	0	16.2	12.7	5.74	2.2	0	4.34	7.99
"	A	0	0	0	0	0	0	0	0	0	0
Ceratopogonidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Culicoides	L	0	0	0	0	0	0	4.54	0	0	0
Empididae	L	0	0.56	0.51	0.51	0	0	0	0	0	0
"	A	0	0	0	0	0	0.07	0	0	0	0.05
Stratiomyidae	L	0	0	0	0	0.75	0	0.28	0	0.4	0
"	A	0	0	0	0	0	0	0	0	0	0
Syrphidae	A	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	2.25	2.05	5.05	0.75	0.14	0.14	0.27	4.47	0.15
"	A	0	0	0	1.52	0	0	0.14	0.8	0.26	0
Heleomyzidae	A	0	0	0	0	0	0	0	0	0	0
Sciomyzidae	A	0	0	0	0	0	0	0	0	0	0
Muscidae	L	0	0	0	4.04	5.99	4.59	0.14	0	4.21	0
"	A	0	0	0	0	0	0	0.14	0	0	0

Table 37 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE 8 (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
DIPTERA cont'd											
Culicidae	A	0	0	0	0	0	0	0	0	0	0
Tabanidae	A	0	0	0	0	0	0	0	0	0	0
Rhagionidae	A	0	0	0	0	0	0	0	0	0	0
Oryomyzidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0.51	0.51	0	0.22	0	0	0	0
Lonchaeidae	A	0	0	0	0	0	0.14	0	0	0	0
Mycetophilidae	A	0	3.37	0.51	3.03	0	3.52	2.48	0.27	0.4	0
Dolichopodidae	A	0	0	0	0	0	0	0	0	0	0
Xylophagidae	A	0	0	0	0	0	0	0	0	0	0
Pharidae	A	0	0	0	0	0	0	0	0	0	0
TRICHOPTERA											
Philopotamidae											
Dolophilodes	L	0	2.25	8.18	82.9	41.2	9.55	20	102	25.8	12.8
"	A	0	0	0	0	0	0	0	0	0.13	0
Psychomyiidae											
Psychomyia	L	0	0	0	0.51	0	0.07	0.69	0	4.34	0.05
Polycentropidae											
Polycentropus	L	0	0	0	0	0	0.14	4.4	0	0	0.1
Cyrnellus	L	0	0	0	11.1	47.9	0.14	6.19	8.5	16.8	3.2
Hydropsychidae											
Diplectrona	L	0.65	1.12	1.02	1.52	1.5	1.22	0	1.33	0.8	0
"	A	0	0	0	0	0	0	0	0	0.13	0
Rhyacophilidae	A	1.96	0	0	0.51	0	0	0	0	0	0
Glossomatidae											
Glossosoma	L	5.23	0	0	0	0	4.81	0.14	0	4.21	6.39
Brachycentridae											
Brachycentrus	L	0	0	0	0	0	0.07	0	0	0	0
Lepidostomatidae											
Lepidostoma	L	5.23	0	0	0	5.99	0	0	0	0	0
Limnephilidae											
Neophylax	L	0	0	0	0	0	0.29	0.28	0	0	0
Limnephilus	L	0	0	0	0	0	0	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0
Ironoquia	L	0	0	0	0	0	0	0	0	0	0
Pycnopsyche	L	0	0	0	0	0	0	0	0	0	0
Pseudotenophylax	L	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	0	0	0	0	0	0	0	8.5	0	1.6
Rhyacophilidae											
Ptilostomis	L	0	0	0	0	0	0.14	0	0	4.21	0.05

Table 37 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
COLEOPTERA											
Amphizoidae											
Amphizoa	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0
Haliplidae											
Haliplus	A	0	0	0	0	0	0	0	0	0	0
Dytiscidae											
Dytiscus	L	0	0	0	0	0	0.07	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Agabus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydroporus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydroscaphidae											
Hydroscapha	L	0	0	0	0	0	0.22	0	0	0	0
"	A	0	0	0	0	0.75	0	0.28	0.27	0.26	0
Sperchopsis	A	0	0	0	0	0	0	0	0	0	0
Staphylinidae	A	0	8.99	8.18	0	0	0	2.34	0	0	0
Psephenidae											
Ectopria	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Dryopidae											
Dryops	A	0	0	0	0	0	0	0	0	0	0
Hydrophilidae											
Hydrophilus	A	0	0	0	0	0	0	0	0	0	0
Elmidae											
Stenelmis	A	0	0	0	0	0	0	0	0	0	0
Bostrichidae	A	0	0	0	0	0	0	0	0	0	0
Helodidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Chrysomelidae											
Donacia	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Curculionidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0	0	0.07	0	0	0	0
Sphaeriidae	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0

Table 37 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE B (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	---- TREATMENT pH 4.8 ---- SEPT 16	SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
HEMIPTERA											
Corixidae											
Sigara	A	0	0	0	0	0	0	0	0	0	0
Gerridae											
Rheumatobates	A	0	0	0	0	0.75	0	0	0	0	0
Notonectidae											
Notonecta	A	0	0	0	0	0	0	0	0	0	0
Cercopidae	A	0.65	0.56	0.51	1.01	0	0.14	0.55	17.5	4.74	0.1
Pentatomidae		0	0	0	0	0	0	0	0	0	0
Issidae		0	0	0	0	0	0.07	0.14	0.27	0.13	0
Miridae		0	0	0	0	0	0	0	0	0	0
Coccidae		0	0	0	0	0	0	2.2	0	0	0
LEPIDOPTERA											
Tortricidae											
Archips	L	0	1.69	1.02	0.51	0.75	0.43	0.14	0.8	0.13	0.05
"	A	1.96	0	0	0	0	0	0	0	0	0
Pyralidae											
Acentropus	L	0	0	0	0	0	0.07	0	0	0	0
HYMENOPTERA											
Ichneumonidae	A	0	0	0	0	0	4.67	0.28	0	0	0
Chalcidoidea	A	0	0.56	0.51	1.01	0	0	0.28	0	8.42	0
Formicidae	A	1.96	2.81	0.51	1.01	0	0	0	0	0	0
Tenthredinidae	A	0	0	0	0	0	0	0	0	0	0
Mymaridae	A	0	0	0	0	0	0	0	0	0	0
Cynipidae	A	0	0	0	0	0	0	0	0	0	0
Andrenidae	A	0	0	0	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0	0	0	0	0	0	0
Platygasteridae	A	0	0	0	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		0	1.12	0	0	0	11.5	0	8.5	0	3.25
PSOCOPTERA											
Troglidae		10.5	1.12	1.02	10.6	0	2.33	2.2	3.04	0	0
ODONATA											
Libellulidae											
Libellula	N	0	0	0	0	0	0	0	0	0	0
Cordulegastridae	N	0	0.56	0	0	0	0	0	0	0	0

Table 32 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 1.11 cubic meters per day)

SITE F (AUTUMN 1982)

		PRETREATMENT	TREATMENT pH 4.8				TREATMENT pH 4.2			
TAXA	LIFE STAGE	SEPT 14	SEPT 15	SEPT 16	SEPT 17	SEPT 18	SEPT 19	SEPT 20	SEPT 21	SEPT 22	SEPT 23
MISCELLANEOUS											
Tricladida		0	2.25	0	0	0	4.59	0	0	0	0
Nematoda		32	0	0	0.51	0	9.19	0	8.5	0	0
Oligochaeta		47.7	8.99	16.4	43	53.9	13.8	13.2	8.5	4.21	1.65
Cyclopoida		0	0	0	0	0	0	0	0	0	0
Harpacticoida		10.5	0	4.09	17.2	5.99	5.81	2.2	0	8.42	0
Ostracoda		0	0	0	0	0	0	0	0	0	0
Araneidae		5.23	4.49	0	0	0	0	0.14	0	0.13	0
Acarina		5.23	20.2	24.5	0	30	16.1	13.2	17	4.21	1.6
Collembola		5.23	34.3	25.1	12.6	0	42.5	8.81	51.3	25.4	4.79
Tartigrada		0	0	0	0	0	0	0	0	0	0
Lepomis		0	0	0	0	0	0	0	0	0	0
Eucalia		0	0	0	0	0	0	0.14	0	0.14	0
Chrosomus		0	0	0	0	0	0	0	0	0	0
Crangonyx		0	0	0	0	0	0	0	0	0	0
Rana		0	0	0	0	0	0	0	0	0	0
Plethodon		0	0.56	0	0	0.75	0	0	0	0	0.15
Bufo		0	0	0	0	0	0	0	0	0	0
Camberus		0	0	0	0	0	0	0	0	0	0.05
Napeozapus		0	0	0	0	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0	0
Spirobolidae		0	0	0	0	0	0	0	0	0	0
Chrysopa		0	0	0	0	0	0	0	0	0	0
Sphaerium		0	0	0	0	0	0	0	0	0	0
Planorbis		0	0.56	0.51	0	5.99	0.07	0	0	0	0
Ixodidae		0	0	0	0	0	0	0	0	0	0
Gordiidae		0	0	0	0	0	0	0	0	0	0

Table 38. Detailed results of drift samples from site C of the autumn experiment.

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
EPHEMEROPTERA											
Siphlonuridae											
Ameletus	N	0	0	0	0	0	0	4.4	0	0	1.6
"	A	0	0	0	0	0	0	0	0	0	0
Ephemerellidae											
Ephemerella	N	0	1.12	1.02	0.51	1.5	1.87	8.95	9.83	0.53	0.05
Heptageniidae											
Stenonema	N	0	0	0	0	0.75	0	0	0.27	0.13	1.6
Leptophlebiidae											
Paraleptophlebia	N	0	0.56	0.51	0	0.75	9.47	0.41	10.9	4.61	0
PLECOPTERA											
Leuctridae											
Leuctra	N	0	0	0	0	3	0	0	0.27	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Nemouridae											
Nemoura	N	0	0	0	0.51	0	2.44	4.54	0.27	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Amphinemoura	N	0	0	0	0	0	0	0	0	0	0
Capnidae											
Allocapnia	N	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
DIPTERA											
Chironomidae											
Pentaneurini	P	0	0	0	0	0	0	0	0	0	0
"	A	22.9	2.25	1.02	0	3.75	0	0	0	0	3.25
Larsia	L	0	0	4.09	8.09	5.99	0	0	0	0	0
Paramerina	L	0	0	0	8.09	0	0	0	0	4.21	1.6
Thienemannimyia	L	0.65	0	4.09	0	0	9.47	4.54	8.77	0.4	3.25
Macropelopiini	P	0	0.56	0	0	0	0	0	0	0	0
"	L	62.8	38.2	32.7	48.5	5.99	19.5	26.4	0	16.8	0
"	A	0	0	0	0	0	0	0	0	0	0
Procladius	L	0	0	0	0	0	0	0	0	0	0
Chironomini	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Polypedilum	L	121	112	123	126	45.7	341	163	332	123	83.2
Chironomus	L	0	0	0	0	0	0.14	0.14	0	0	0
Tanytarsini	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0.14	0	0	0
Tanytarsus	L	158	59	65.5	61.2	36.7	289	163	383	136	92.9

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (AUTUMN 1982)

TAXA	LIFE STAGE	SEPT 14	SEPT 15	SEPT 16	SEPT 17	SEPT 18	SEPT 19	SEPT 20	SEPT 21	SEPT 22	SEPT 23
		-PRETREATMENT-			---- TREATMENT pH 4.8 ----			---- TREATMENT pH 4.2 ----			
DIPTERA cont'd											
Corynoneurini	L	0	0	0	0	0	0	0	0	0	0
"	P	10.5	8.99	8.18	9.1	7.49	10.3	4.4	26	12.6	11.2
"	A	0	0	0.51	12.6	24	9.19	9.08	17	8.42	3.2
Thienemanniella	L	64.7	30.3	29.1	62.2	39	43.8	26.6	1	29.7	14.4
Corynoneura	L	47.1	20.8	40.9	25.3	12	10.3	0	1	0	1.6
Orthocladiini	P	26.8	20.8	16.4	8.09	3.75	3.45	44	1	8.42	6.44
"	A	9.15	25.8	24.5	27.3	5.99	1.15	13.2	1	0	0
Cricotopus	L	10.5	22.5	16.4	1.01	0	54.3	61.4	94.3	25.9	32.1
Eukiefferiella	L	0	0	0	0	0	20.7	4.4	8.5	0	6.44
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Parametriocnemus	L	15.7	6.74	8.18	21.7	18	19.5	17.2	0	0	0
Psectrocladius	L	5.23	0	0	8.59	0	0	0	0	0	0
Pseudosmittia	L	0	0	0	4.04	0	0	0	0	0	0
Rheocricotopus	L	0	0	0	0	0	0	0	0	0	0
Simuliidae											
Simulium	L	0.65	8.99	8.18	32.9	12	1.15	13.2	0.27	8.42	3.2
"	P	0	0	0	0	0	0	0	0	0	3.2
"	A	0	0	0	0	0	0	0	0	0	0
Prosimulium	L	1.31	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Ectemnia	L	0	0	0	0	0	0	0	0	0	0
"	P	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Athericidae											
Atherix	L	0	0	0	8.59	0	9.33	4.4	0	8.55	0
"	A	0.65	0	0	0.51	0	0	0	0	0	0
Ceratopogonidae	L	0	0	0	0	0	0	4.4	0	0	0
"	A	0	0.56	0.51	0	0	0	0	0	0	0
Culicoides	L	0	0	0	4.04	3	0.07	0	0	0	0
Empididae	L	0	0	0	0	0	0.07	4.4	0.27	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Stratiomyidae	L	0	0	0	0	0	0.14	0	8.5	0.53	0.1
"	A	1.31	0	0	0	0	0	0	0	0	0
Syrphidae	A	0	0	0	0	0	0	0	0	0	0
Tipulidae	L	0	0	0	1.01	0.75	0.14	1.93	1.86	0.26	0.2
"	A	0.65	0	0	0.51	0	0	0	0.27	0.13	0.05
Heleomyzidae	A	0	0	0	0	0.75	0	0	0	0	0
Sciomyzidae	A	0	0	0	0	0	0	0	0	0	0
Muscidae	L	0	2.25	0	4.55	0	1.15	0	0.266	0	0
"	A	0	0	0	0	0	0	0.14	0	0	6.39

Table 38 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
DIPTERA cont'd											
Culicidae	A	0	0	0	0	0	0	0	0	0	0
Tabanidae	A	0	0	0	0	0	0	0	0	0	0
Rhagionidae	A	0	0	0	0	0	0	0	0	0	0
Oryomyzidae	L	0	0	0	0	0	0	0	0	0.26	0
"	A	0	0	0.51	2.02	0	0.5	0.14	0.27	0	0
Lonchaeidae	A	0	0	0	0	0	0.14	0	0	0	0
Mycetophilidae	A	3.92	1.69	1.53	0	3.75	1.58	0	25.8	4.34	0
Dolichopodidae	A	0.65	0	0	0	0	0	0	0	0	0
Xylophagidae		0	0	0	0	3	0	0	0	0	0
Pharidae		0	0	0	0	0	0	0	0	0	0.05
TRICHOPTERA											
Philopotamidae											
Dolophilodes	L	0.65	9.55	16.4	20.7	11.2	1.36	13.5	51	17	0.05
"	A	0.65	0	0	0	0	0.07	0	0	0	0
Psychomyiidae											
Psychomyia	L	0	0	4.09	0.51	0	0.29	0	0	0	0.05
Polycentropidae											
Polycentropus	L	0	0	0	0	0	0.22	0.14	0.27	0.13	0
Cyrnellus	L	0	0	0	5.56	9.74	0	0.14	0.27	0	0
Hydropsychidae											
Diplectrona	L	1.96	3.37	3.58	3.54	0.75	1.22	18.7	3.19	1.18	0.15
"	A	0	0	0	0	0	0	0	0.27	0	0
Rhyacophilidae	A	0	0	0	0	0	0	0	0	0	0
Glossomatidae											
Glossosoma	L	5.23	0	0	16.7	5.99	0.14	4.54	0	0	0
Brachycentridae											
Brachycentrus	L	0	8.99	8.18	0	0	0	0	0	0	0
Lepidostomatidae											
Lepidostoma	L	0	0	0	0	0	0.07	0	0	8.55	0
Limnephilidae											
Neophylax	L	0	1.12	0.51	0	0.75	0	0	0	0	1.65
Limnephilus	L	0	0	0	0	0	0.07	0	0	0	0
Platycentropus	L	0	0	0	0	0	0	0	0	0	0
Ironoquia	L	0	0	0	0	0	0	0	0	0	0
Pycnopsyche	L	0	0	0	0	0	0	0	0	0	0
Pseudotenophylax	L	0	0	0	0	0	0	0	0	0	0
Hydroptilidae	L	0	0	0	0	0	0	0	8.5	0	0
Rhyacophilidae											
Ptilostomis	L	0	0	0	0.51	0	0.07	8.81	8.5	0	0

Table 38 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 10 cubic meters per day)

SITE 1 (AUTUMN 1982)

TAXA	LIFE STAGE	PRETREATMENT- SEPT 14	SEPT 15	TREATMENT pH 4.8 SEPT 16	SEPT 17	SEPT 18	SEPT 19	TREATMENT pH 4.2 SEPT 20	SEPT 21	SEPT 22	SEPT 23
COLEOPTERA											
Amphizoidae											
Amphizoa	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0
Haliplidae											
Haliplus	A	0	0	0	0	0	0	0	0	0	0
Dytiscidae											
Dytiscus	L	0	0	0	0	0	0.22	4.4	0.27	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Agabus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydaticus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydroporus	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Hydroscaphidae											
Hydroscapha	L	0	0	0	0	0	0	0	0.27	0	0
"	A	0	0	0	0	0	0.14	0	0	0	0
Sperchopsis	A	0	0	0	0	0	0	0	0	0	0
Staphylinidae	A	0	0	0	0	0	0	0.14	8.5	0	0.1
Psephenidae											
Ectopria	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Dryopidae											
Dryops	A	0	0	0.51	0.51	0	0	0	0	0	0
Hydrophilidae											
Hydrophilus	A	0	0	0	1.01	0	0.07	0	0	0	0
Elmidae											
Stenelmis	A	0	0	0	0	0	0	0	0	0	0
Bostrichidae	A	0	0	0	0	0.75	0	0	0	0	0
Helodidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Chrysomelidae											
Donacia	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Curculionidae	L	0	0	0	0	0	0	0	0	0	0
"	A	0	0	0	0	0	0	0	0	0	0
Lampyridae	A	0	0	0	0.51	0	0	0	0	0	0
Sphaeriidae	A	0	0	0	0	0	0	0	0	0	0
Carabidae	A	0	0	0	0	0	0	0	0	0	0

Table 38 cont'd

PLASTIC OUTFLOW DRIFT DENSITY BY TAXA
(numbers per 100 cubic meters per day)

SITE C (AUTUMN 1982)

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
HEMIPTERA											
Corixidae											
Sigara	A	0	0	0	0	0	0	0	0	0	0
Gerridae											
Rheumatobates	A	0.65	0	0	0	0.75	0	0	0	0	0
Notonectidae											
Notonecta	A	0	0	0	0	0	0	0	0	0	0
Cercopidae	A	0	0.56	0.51	1.52	6.74	0.22	5.64	1.33	0.13	0.05
Pentatomidae		0	0	0	0	0	0	0	0	0	0
Issidae		0	0	0	0	0	0.14	0.41	0	0	0
Miridae		0	0	0	0	0	0.14	0	0	0	0
Coccidae		0	0	0	0	0	0	8.81	0	0	0
LEPIDOPTERA											
Tortricidae											
Archips	L	1.96	1.12	0	2.02	0	0.36	0.14	0.53	0.53	0
"	A	0	0	0	0	0	0	0	0	0	0
Pyralidae											
Acentropus	L	0	0	0	0	0	0	0	0	0	0
HYMENOPTERA											
Ichneumonidae	A	0	0.56	1.02	1.01	0.75	0.29	0.41	9.3	0.26	0.1
Chalcidoidea	A	10.5	0	0	0.51	1.5	1.15	0	0	4.21	0
Formicidae	A	6.54	2.81	1.02	1.01	0	0	0	0	0	0
Tenthredinidae	A	0	0	0	0	0	0	0	0	0	0
Mymaridae	A	0	0	0	0	0	0	0	0	0	0
Cynipidae	A	0	0	0	0	0	0	0	0	0	0
Andrenidae	A	0	0	0	0	0	0	0	0	0	0
Eulophidae	A	0	0	0	0	0	0	0	0	0	0
Platygasteridae	A	0	0	0.51	0	0	0	0	0	0	0
HOMOPTERA											
Aphididae		1.31	5.62	0.51	0.51	0.75	2.51	0	8.5	4.21	0.1
PSOCOPTERA											
Troglidae		0	0.56	0	26.3	2.25	14.1	4.68	26.3	8.55	3.2
ODONATA											
Libellulidae											
Libellula	N	0	0	0	0	0	0.07	0	0	0	0
Cordulegastridae	N	0	0	0	0	0	0	0	0	0	0

Table 38 cont'd

PLASTIC OUTFL[illegible] DRIFT DENSITY BY TAXA
(numbers per [illegible] cubic meters per day)

SITE C AUTUMN 1982

TAXA	LIFE STAGE	-PRETREATMENT- SEPT 14	SEPT 15	SEPT 16	---- TREATMENT pH 4.8 ---- SEPT 17	SEPT 18	SEPT 19	---- TREATMENT pH 4.2 ---- SEPT 20	SEPT 21	SEPT 22	SEPT 23
MISCELLANEOUS											
Tricladida		0	0	0	0	0	0	4.4	0	0	0
Nematoda		0	2.25	4.09	0	0	18.5	4.4	0	4.21	0
Oligochaeta		5.23	9.55	8.18	0	24	9.55	4.4	8.5	0	8.04
Cyclopoida		0	0	0	0	0	0	4.4	0	0	0
Harpacticoida		20.9	22.5	20.5	4.04	6.74	38	8.81	17	8.42	0
Ostracoda		0	0	0	0	0	0	4.4	0	0	0
Araneidae		6.54	12.4	8.69	2.53	0	0.29	9.08	0	0	3.2
Acarina		10.5	9.55	12.8	9.1	12	34.6	22.2	25.5	42.1	9.59
Collembola		84.4	25.8	12.3	85.9	12.7	13.9	4.4	25.5	25.3	3.25
Tartigrada		0	0	0	0	0	0	0	0	0	0
Lepomis		0	0	0	0	0	0	0	0	0	0
Eucalia		0	0	0	0	0	0	0	0	0	0
Chrosomus		0	0	0	0	0	0	0	0	0	0
Cranqonyx		0	0	0	0	0	0	0	0.27	0	0
Rana		0	0	0	0	0	0	0	0	0	0
Plethodon		0	0	0	0.51	0	0	0	0	0	0.5
Bufo		0	0	0	0	0	0	0	0	0	0
Cambarus		0	0	0	0	0	0	0	0	0	0
Napeozapus		0	0	0	0	0	0	0	0	0	0
Pseudoscorpionida		0	0	0	0	0	0	0	0	0	0
Spirobolidae		0	0	0	0	0	0	0	0	0	0
Chrysopa		0	0	0	0	0	0	0	0	0	0
Sphaerium		0	0	0	0	3	10.3	0	0	0	0
Planorbis		0	0	0	0	0	0.07	0	0	0	0
Ixodidae		0	0	0	0	0	0	0.14	0	0	0
Gordiidae		0	0	0	0	0	0	0	0.27	0	0

Collection Table 35 Site 1 Spring Drift (May 10/82)

EPHEMEROPTERA		MAY 10
Baetidae		
Baetis	N	0
"	A	0.08
Ephemerellidae		
Ephemerella	N	0.69
Heptageniidae		
Leucrocuta	N	0
Leptophlebiidae		
Paraleptophlebia	N	0
PLECOPTERA		
Leuctridae		
Leuctra	N	13.8
"	A	0
Nemouridae		
Nemoura	N	11.1
"	A	0.65
Unidentified	N	4.56
Capniidae		
Allocapnia	N	1.37
"	A	1.05
DIPTERA		
Chironomidae		
Pentaneurini	P	0
"	A	0.89
Larsia	L	0.73
Paraneria	L	9.29
Thienemanniella	L	0.69
Macropelopiini	P	0
"	L	0
"	A	0
Procladius	L	0.69
Chironomini	P	0
"	A	0.65
Polypedilum	L	1.41
Chironomus	L	0
Tanytarsini	P	0
"	A	0
Tanytarsus	L	3.88
Corynoneurini	L	0
"	P	3.23
"	A	0
Thienemanniella	L	3.39
Corynoneura	L	0
Orthocladiini	P	5.49
"	A	6.34
Cricotopus	L	4.36
Eukiefferiella	L	0
"	P	5.85
"	A	2.83
Parametriocnemus	L	2.83
Psectrocladius	L	9.77
Pseudosmittia	L	2.87
Rheocricotopus	L	3.31
Simuliidae		
Simulium	L	59.9
"	P	0
"	A	0.65

DIPTERA cont'd		MAY 10
Simuliidae		
Prosimulium	L	2.66
"	P	0.65
"	A	1.41
Ectemnia	L	7.31
"	P	0.85
"	A	1.47
Athericidae		
Atherix	L	1.30
"	A	0
Ceratopogonidae	L	0.65
"	A	0
Culicoides	L	0
Empididae	L	0
"	A	0
Stratiomyidae	L	0.00
"	A	0
Syrphidae	A	0
Tipulidae	L	0.65
"	A	0
Heleomyzidae	A	0
Sciomyzidae	A	0
Muscidae	L	0
"	A	0
Culicidae	A	0
Tabanidae	A	0
Rhagionidae	A	0
Dryomyzidae	L	0
"	A	0
Lonchaeidae	A	0
Mycetophilidae	A	0
Dolichopodidae	A	0
Xylophagidae	A	0
Pharidae	A	0
TRICHOPTERA		
Philopotamidae		
Dolophilodes	L	0.16
"	A	0
Psychomyiidae		
Psychomyia	L	0.68
Polycentropidae		
Polycentropus	L	0.04
Cyrnellus	L	0.65
Hydropsychidae		
Diplectrona	L	0
"	A	0
Rhyacophilidae	A	0
Glossosomatidae		
Glossosoma	L	0.69
Brachycentridae		
Brachycentrus	L	0
Lepidostomatidae		
Lepidostoma	L	0.69
Limnephilidae		
Neophylax	L	0.65
Limnephilus	L	0
Platycentropus	L	0
Ironoquia	L	0.04

TRICHOPTERA cont'd		MAY 10
Limnephilidae		
Pycnopsyche	L	0
Pycnopsyche/Ironoquia	L	0
Hydropsyche	L	0
Rhyacophilidae		
Rhyacophila	L	0
COLEOPTERA		
Amphizoidae		
Amphizoa	A	0
Carabidae	A	0
Haliplidae		
Haliplus	A	0
Dytiscidae		
Dytiscus	L	0
"	A	0
Hydrus	L	0
"	A	0
Hydaticus	L	0
"	A	0
Hydroporus	L	0
"	A	0
Hydroscaphidae		
Hydroscapha	L	0
"	A	0
Sperchopsis	A	0
Staphylinidae	A	0
Psephenidae		
Ectopria	L	0
"	A	0
Dryopidae		
Dryops	A	0.65
Hydrophilidae		
Hydrophilus	A	0
Elmidae		
Stenelmis	A	0
Bostrichidae	A	0
Melodidae	L	0
"	A	0
Chrysomelidae		
Donacia	L	0
"	A	0
Curculionidae	L	0
"	A	0
Lampyridae	A	0
Sphaeriidae	A	0
Carabidae	A	0
HEMIPTERA		
Corixidae		
Sigara	A	0
Gerridae		
Rheumatobates	A	0
Notonectidae		
Notonecta	A	0
Corcopidae	A	0
Pentatomidae		0
Issidae		0
Miridae		0
Coccidae		0

LEPIDOPTERA		MAY 10
Tortricidae		
Archips	L	0.04
"	A	0.04
Pyralidae		
Aegyrtipus	L	0
HYMENOPTERA		
Ichneumonidae	A	0
Chalcidoidea	A	0
Formicidae	A	0.04
Tenthredinidae	A	0
Mymaridae	A	0
Pompilidae	A	0
Andrenidae	A	0
Colophidae	A	0
Platygasteridae	A	0
HOMOPTERA		
Aphididae		0.04
PSOCOPTERA		
Trogiidae		0
ODONATA		
Libellulidae		
Libellula	N	0
Cordulogastridae	N	0
MISCELLANEOUS		
Tricladida		0
Nematoda		0.65
Oligochaeta		0.65
Cyclopoida		0
Harpacticoida		0.65
Ostracoda		0
Araneidae		0.65
Acarina		5.81
Collembola		2.34
Tartigrada		0
Lepomis		0
Eucalia		0
Chrosomus		0
Crangonyx		0
Rana		0
Plethodon		0
Bufo		0
Cambarus		0
Napeozapus		0
Pseudoscorpionida		0
Spirobolidae		0
Chrysopa		0
Sphaerium		0
Planorbis		0
Ixodidae		0
Gordiidae		0

CORRECTION Table 29 Site C
Spring Drift (May 10/82)

TAXONOMIC ORDER	PRETREATMENT MAY 10	MAY 11	MEAN MAY 10 - 11	S.D.
EPHEMEROPTERA	0.77	1.29	1.03	0.26
PLECOPTERA	32.3	38.1	35.2	2.9
DIPTERA	147	163	155	8
TRICHOPTERA	3.60	4.04	3.82	0.22
COLEOPTERA	0.65	2.26	1.46	0.81
HEMIPTERA	0	0	0	0
LEPIDOPTERA	0.08	0.08	0.08	0
HYMENOPTERA	0.04	0.65	0.35	0.31
HOMOPTERA	0	0	0	0
PSOCOPTERA	0	0	0	0
ODONATA	0	0	0	0
MISCELLANEOUS	10.7	10.6	10.6	0.06